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Vol. 12, No. 1

January/February 1992

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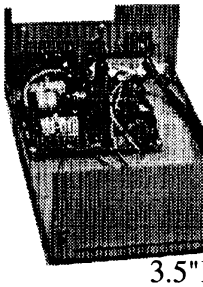

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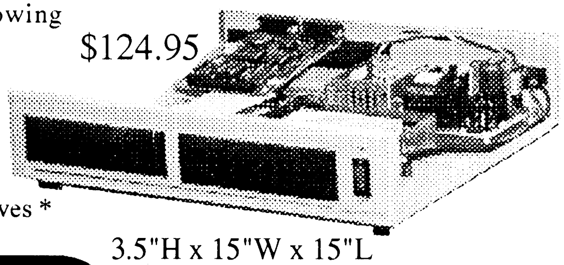

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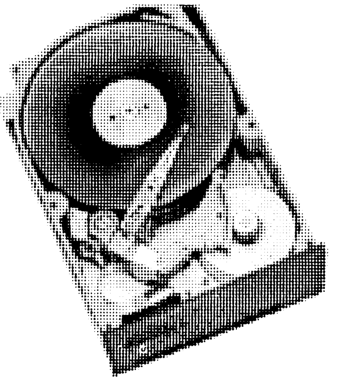

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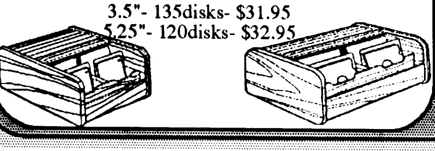

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Don't forget to send in a change of address notice if you are moving. Current Notes is distributed via second class US mail. The post office does not forward second class publications; they throw them away.

TIME TO RENEW?

Look at your mailing label. If it has the expression **9202** on the first line, that means your subscription ends in **1992, month 2,** i.e. the **February** issue is your last. Renew ASAP to be sure you do not miss any issues.

The cover: Apple and Orange Atari Still Life. As personal computers continue evolving with faster and more powerful chips, it's harder to avoid comparing apples and oranges. The classic Atari 1040ST remains appealing although its 8 mHz speed no longer is at the cutting edge . Photo by Mike Heininger, (c) 1992.

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This publication is produced using an Atari Mega ST4, an Atari SM124 monochrome monitor and a Moniterm Viking monitor, a Navarone scanner, and the Atari SLM804 laser printer. Most of the output is generated with *Calamus*. Some pages, including advertisements, are produced with *PageStream* and others with *Publisher ST*.

From the Editor's Desk

by Joe Waters

1992 Directions

January/February. Welcome to another year of *Current Notes*. As I write this editorial, we have already received half a dozen calls asking where the January issue is and I am sure we will get many more. Well, here it is, sort of. Remember we print only 10 issues per year so two of the issues are double-month issues: July/August and January/February. We used to call this issue, which actually arrives in early February, the "February" issue. But then there were many people who were concerned because they couldn't find or get the "January" issue. So, for simplicity, I decided to put "January/February" on the cover so readers wouldn't worry about a "missing" issue. We are, indeed, back for 1992 and right on schedule for another year of Atari coverage.

500 Pages. Speaking of coverage, I have compiled an annotated index of *Current Notes* articles in 1991 (see pages 74–79). I hope you keep your back issues because, as you can see in browsing through the index, over the course of a year, *CN* publishes a wealth of information. Our typical 84-page issue contains about 50 pages of text (news, articles, reviews, tutorials). That's 500 pages a year. Let me offer my special thanks to all the columnists and authors who contribute so diligently to CN. They are providing a terrific service to the Atari community, one that we will seek to continue in '92.

The Year of the Atari User. Atari declared 1990 to be "The Year of Atari." It wasn't much of a year and in the beginning of 1991, we asked, somewhat dubiously, whether 1991 really would be the "Year of Atari." We are not going to ask that same question in 1992. Instead, CN will declare 1992 as the "Year of the Atari User." We have always focused on the *owners* of Atari computers, but this year we want to put particular emphasis on helping users get more out of their investments. Some day, many of you will purchase another computer. It may be the new TT or another Atari model. Or, it may be an entirely different brand and system. In the meantime, you have already purchased your Atari computer. Now, what do you do with it? I will encourage *CN* authors to tackle that question.

Computers Mostly. I might add that the emphasis in CN will be on Atari "computers." Although we will provide reports when new products, such as the Portfolio or Lynx, are introduced, there will not be regular reporting on these products. Most of our readers have an Atari ST/Mega, or STe/MegaSTe and most of our coverage will focus on these products. Many of our readers still use the 8–bit Atari and, as long as interest continues, we will continue to devote part of each issue to the 8-bit Atari computer enthusiast. Unique TT coverage will expand as the population of TT owners does, which is not likely to be very fast in the coming year.

Goodbye Ben. Last month I reported that Ben Poehland would be taking leave for a several months to get his house in order after a fire damaged part of it. Ben has written to say that it is not a leave; it is a departure and that *CN* should look for a replacement. He felt we were not giving sufficient coverage to the Atari 8–bit and he was considering starting a separate publication for 8–bit owners only (see the classified ads in this months' issue). We are sorry to see Ben go and wish him the best of luck in any future enterprises.

Hello Rick. In the meantime, we have found a replacement. Starting in March, Rick Reaser will be launching a new 8–bit column called "8-Bit Tid Bits." Some of you may recall that Rick was the author of the December '91 CN Special Report on *ChromaCADD*. Rick would love to hear from any of our readers who may have some ideas (or help) to pass on to him for future 8–bit articles. Rick can be reached on GEnie (R.REASERJR1), or via U.S. mail (Rick Reaser Jr, 4625 Whimsical Dr, Colorado Springs, CO 80917-3120), or simply give him a call (719–380–8082).

Atari News. A new feature you will see this month is a section on Atari news and press releases. Much of the news comes from Z*Net and they will prepare a regular news section each month. Of course, those of you with modems and access to GEnie already download weekly Z*Net issues. But for many others, Atari news is sometimes hard to come by and we will attempt to bring you the major announcements each month. Atari vendors can send us their press releases directly or via GEnie (JOE.WATERS).

Foreign Savings. One of the changes for this coming year will certainly benefit some of our foreign subscribers. Our foreign subscription rates have always been calculated as the basic cost of the subscription plus whatever additional postage is required to mail the issue abroad. Because of a change in postal rates, we can now lower the price of our non–Canadian foreign subscriptions (surface rate) to be the same as the Canadian. All foreign subscriptions are now $35/year ($63/2 yrs). That's a savings of $9 on an annual subscription and $17 on a two–year subscription.

Club Update. Finally, we added virtually every Atari club we heard about to our club list in 1991. However, for many of these clubs, we have no subscribers and no way of knowing, for sure, that the information is correct. As an annual exercise, then, we will rebuild that list again. To reinstate your club, send us the following information: club name; contact name, address, and phone number; BBS number, if any; number of members. If you send us a membership roster, supplies permitting, we will try to send each of your members a sample copy of *CN*. You can, if you prefer, send me the information electronically on GEnie (JOE.WATERS).

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Heroes of the Lance
Hillfar
Hollywood Hijinx
Infestation
King of Chicago
Murder on the Atlantic
Night Work
Obliterator
Perfect Match
Phantasy I, II, III
President Elect
Prison
Project Neptune
Questron II
Road War 2000
Rocket Ranger
S.D.I.
Sky Fox
Space Station Oblivion
Terropods
The Empire Strikes Back
Wargames
Warship
Waterloo

Atari Portfolio & Accessories

☐Atari Portfolio	$239.99
☐Parallel Interface	$42.99
☐Serial Interface	$62.99
☐32K Ram Memory Card	$65.99
☐64K Ram Memory Card	$91.99
☐128K Ram Memory Card	$139.99
☐AC Power Adapter	$7.99
☐Leather Carrying Case	$29.99
☐Finance Program	$59.99

Desktop Publishing

☐Fonts & Borders	$19.99
☐Dyna Cadd	$525.00
☐PageStream 2.1	$159.99
☐PageStream Fonts Disk	$23.99
☐Calamus	$159.99
☐Calamus Font Editor	$59.99
☐Calamus Outline Art	$159.99
☐Hand Scanner & Touch-Up	$285.00
☐OCR for Hand Scanner	$250.00
☐Silhouette	$89.99

Printers

☐Star NX-1000 I	$139.99
☐Star NX-1020 Rainbow	$199.99
☐Star NX-2424 Rainbow	$299.99
☐Panasonic KXP-1181	$149.99
☐Panasonic KXP-1191	$189.99
☐Panasonic KXP-1123	$199.99
☐NEW Panasonic KXP-1124i	$299.99
☐32K Buffer for 1181, 1191, & 1124	$19.99

Used Hardware

☐Atari 1040	$200.00
☐Atari 520ST w/354	$125.00
☐SC1224 Color Monitor	$175.00
☐SM124 Mono Monitor	$95.00
☐IB 5 1/4" drive for ST	$50.00
☐SF354 ss drive	$50.00
☐SF314 ds drive	$95.00

Atari Industry News and Announcements

Z*NET NEWSWIRE

[The following announcements were extracted from the Z*NET newswire (date indicated). Z*NET is produced weekly and is available on GEnie and other online sources. Reprinted with permission. For more information contact Z*Net International Atari Online Magazine is (c) 1992 by Rovac Industries, Inc. PO Box 59, Middlesex, NJ 08846.]

Issue #91-51: December 6, 1991

No 1 Meg ST-Book

The ST Book will not be built in a 1-MB configuration. Although the first production of developer machines may have one meg, all production built for sale will have 4 MB of RAM because the design of the machine makes later upgrades impossible. This will make the base price of the ST Book just over $2,000. Production is still slated for January 1992.

Scanner Support for MegaPaint Professional!

CodeHead Software, the exclusive representative in the USA and Canada for *MegaPaint Professional*, an extraordinarily fast and feature-packed painting/drawing program developed by Germany's TommySoftware, has added support for several popular scanners Through communication with Dr. Bobware's new low-priced *ScanLite* desk accessory, which supports the Migraph, Geniscan, Golden Image and Daatascan scanners, *MegaPaint Professional* now supports them as well! Charles F. Johnson, co-owner of CodeHead Software, said, "When I spoke to Dr. Bob at the Chicago Computerfest, I was excited to discover that he had built into *ScanLite* the ability to communicate with outside applications. As soon as we returned from the show, I wrote a small external module for *MegaPaint Professional* that calls *ScanLite* and tells it to scan straight into the *MegaPaint* picture area." Once you've scanned an image, you can then use *MegaPaint's* drawing and painting tools to retouch it, enhance it, transform it, or anything else you can imagine—all at incredible speeds!

MegaPaint Professional, $175 retail, is available from: CodeHead Software, P.O. Box 74090, Los Angeles, CA 90004, Tel 213-386-5735, Fax 213-386-5789. *ScanLite*, $20 Retail, is available from: Dr. Bobware, 180 N. Hazeltine Ave, Campbell, OH 44405-1024, Tel 216-743-4712.

Issue #92-01: January 3, 1992

WordPerfect Tradeup

WordPerfect Corporation is offering a special First Quarter 1992 Competitive Trade-Up for customers who currently own any version of *WordPerfect* for Amiga, Apple IIe/c or IIGS, or Atari. Customers can trade-up to *WordPerfect 5.1 for DOS, WordPerfect 5.1 for Windows, or WordPerfect 2.1 for Macintosh* for $150 ($179 Canada), or they can trade up to *LetterPerfect* for $89 ($110 Canada). This offer is available from your local reseller and expires March 31, 1992. For more information, call WP Corp's Information Services at (800) 451-5151.

Issue #92-02: January 10, 1992

ST-Informer Breakup: New Magazine to Debut

The editorial staff of *ST-Informer*, a popular monthly Atari tabloid-format publication, walked off the job on Monday, January 6, 1992, and plan to create their own rival Atari magazine. According to Mike Lindsay, Oregon-based editor for *ST-Informer* since its inception nearly four years ago, the breakup is the result of a long-standing disagreement over ownership of the magazine. Publisher Rod McDonald has asserted sole ownership, while Mike and others had believed that the magazine was a three-way partnership. Rather than prolong the dispute, Mike, Darren Meers (layout), and many of the staff writers have decided to leave *ST-Informer* and create their own new Atari magazine.

Plans are far from complete at this time, but Lindsay says that they may have a premier issue as soon as February. Of concern to many in the Atari community is the question of whether the fragile developer and dealer base can sustain yet another competitor for their limited advertising dollars during recessionary times. Subscribers, writers, and advertisers are asked to be patient while things settle. Z*Net will have more on this story next week.

Atari President Pratt Resigns!

Greg Pratt has left as President of Atari Corporation (U.S.) for a new position with Creative Labs, Inc., makers of the "Sound Blaster" series of sound cards for MS-DOS computers. After seven years with Atari and even more years before that with the Tramiel family at Commodore, Greg Pratt will leave the president and general manager responsibilities to a group of people within Atari including Sam Tramiel and Augie Ligouri. There are no immediate plans to replace him.

Greg was chief financial officer for many years at Atari and was named President in November 1990 after the departure of Elie Kenan of France. Pratt gave a rousing talk on the future of Atari at the Chicago Computerfest by Atari in November, 1991, in which he indicated personal enthusiasm for the company. The agenda and goals outlined in his talk will continue uninterrupted, according to other Atari officials.

This move had been planned for "some time" according to Atari sources, and corporate direction and planning remain unchanged. VP of Sales, Don Mandell, will continue to supervise the sales organization, with marketing by Bill Rehbock, James Grunke, and Art Morgan under the direction of Sam Tramiel. A consolidation of the Atari U.S. accounting with Atari corporate accounting has been made, returning to the way the company operated in 1985.

Issue #92-03: January 17, 1992

WAACE '92 Announced

The new committee of WAACE has announced dates of the 1992 WAACE Atarifest for October 11-12, 1992.

ST-Informer Continues with New Editor

Last week, Z*Net presented exclusive reporting on the breakup of *ST-Informer Magazine's* editorial staff in an ownership dispute. Since then, Rod McDonald, publisher of *ST-Informer*, has secured a new editor and writing staff. Brian Gockley is the new editor-in-chief. Brian was already a regular writer for *ST-Informer* before the departure of the editorial staff last week, as well as being the coordinator for last year's Connecticut Atarifest. The January *ST-Informer* issue was delayed by the reorganization, but now has been printed and is in the mail to subscribers and dealers. Writers for the magazine say that the revised February *ST-Informer* deadline is less than two weeks away, inferring that *ST-Informer* will be back on a normal release schedule shortly.

The new *ST-Informer* will have a newsprint book-look, similar to that established by *AtariUser* magazine. A number of the pre-existing columns will be presented, but not all with the original authors. A few high-profile writers have postponed their participation in the revised *ST-Informer*, unwilling to declare their alignments until the dust settles. No further word has come from former editor Mike Lindsay and company, who have promised to create a new Atari magazine since leaving McDonald and associates.

Atari Unveils New Music Division

Formalizing a unit in operation since January 1991, Atari Corp. has announce the inception of a new business division named Atari Music. James Grunke will lead this new division and commented, "Atari has always done a good job making computers with a lot of power and benefits for the money. Until this year, however, our developers and retailers were understandably unclear on Atari's position in the U.S. music industry." When asked why he waited to announce a division that had been in defacto operation for almost a year, Grunke stated, "In order for Atari to be taken seriously in the U.S. market we have to demonstrate over time a consistent ability to deliver. After doing that for a year—even in small ways—I believe our actions will now be perceived for what they are: evidence of a serious commitment to becomming a better partner with our developers and retailers."

Atari Signs Up General Electric Service Network

Atari officially announced at NAMM that its products will be serviced by the 250 strong General Electric Service Center network though the U.S. and Canada. Ted Maciejewski, Atari's National Service Manager, stated that product-specific service programs are currently being developed by Atari and GE and are expected to be fully implemented by March 1992. Programs will also be implemented to address the service needs of MIDI musicians and dealers. Mail-in service will be available with normal ten-day and optional one-day turnarounds.

New Atari 14" Flat Screen ST Mono Monitor

To premier at the National Association of Music Merchandisers show (January 17-19), the SM147 will be a 14" paperwhite monitor with a flat screen. About the same dimensions or even a bit smaller overall than the long-standard 12" SM124, the new bigger screen monochrome monitor will feature a tilt/swivel base and retail for $259.95 (suggested). The new monitor will not have a speaker. The SM124 will probably be discontinued, with the SM147 becoming the standard high resolution monitor for the STe series.

Atari Corporation Official Announcement
TOS Development Info Available to General Public
January 15, 1992

Atari is making all of the released TOS development information available to the general public. We are making the kit available to fulfill the needs of programmers that already have purchased a third–party development package, Atari owners that are curious about the 'nuts and bolts' of The Operating System, and anyone else that wants to have a detailed understanding of TOS software development. If you wish, you may purchase the entire kit for $150.00 (U.S.) and also get one year of technical support from Atari via the private Atari Developer Roundtable on GEnie, 6 issues of the bi–monthly Developer Newsletter, ATARI.RSC, and one year of on–going developer kit upgrades. If you wish to renew after one year, there is a fee of only $40.00.

If you wish information on only certain aspects of Atari TOS computers, we also sell sections of the kit separately. The items that are available range from every issue of the developer newsletter since 1985, to the release notes for the exciting new STBOOK. Every detail a software or hardware developer could want is outlined, including MegaSTe/TT VME Bus specifications, STe DMA sound, FSM GDOS programming information, and more.

You must purchase the $150.00 full kit to be eligible for on–going support. I'm sorry, but at this time, you may not purchase a part of the kit, and later upgrade to the support level.

Developers that are currently not registered with Atari, and have a commercial product on the market, or have a product in development, or have any other special needs requiring direct unlimited telephone support should sign up under the Atari Commercial Developer Program. There is an additional fee for this program, but there is no renewal fee required as long as you continue product development and support. (Educators, universities, and businesses may fall into this category.)

Please contact Gail Bacani on 408–745–2022 for more information on the Commercial Developer Program.

Sincerely,
Bill Rehbock,
Director of Technical Services,
Atari Corp.

PRESS RELEASES

CodeHead Announces MIDI Spy!

A new unique MIDI sequencer records and plays in the background! With *MIDI Spy* installed, you'll never lose another valuable musical idea because your sequencer wasn't ready to record—*MIDI Spy* is always listening. You can call it background operation or you can call it MIDI multi-tasking, but what it gives you is freedom and power!

Whether you're a professional musician or a music hobbyist, *MIDI Spy* is the recorder you've been waiting for. As a musician, it's never easy to remember to push that button before you start recording. Many times you'll just start playing without realizing you're about to create something you should capture. Plus, there's always that stigma attached to the "red light" that tends to inhibit your talent.

With *MIDI Spy*, you can forget about these things. You don't have to be a recording engineer. You don't have to anticipate your moments of inspiration. And you won't feel the pressure of the red light. In fact, you'll even forget *MIDI Spy* is installed, until you're ready to replay your creations.

Even if you aren't in a creative mood, *MIDI Spy* can make your day. You can tell it to play a list of MIDI files in the background while you continue to use your computer for other tasks like word processing, desktop publishing, telecommunications, or file maintenance. Now you don't need to waste time while waiting for an upload or download through your modem...you can be working (playing) with your MIDI equipment!

Projected release date for *MIDI Spy* is December 16, 1991. A demo version is available now on all the major on-line services as well as the CodeHead BBS. Suggested retail price is $79.95.

For more information, contact your local dealer, or: CodeHead Software, PO Box 74090, Los Angeles, CA 90004. Tel (213) 386-5735, Fax (213) 386-5789, BBS (213) 461-2095.

Gribnif Announces XBoot—The Boot Manager

Gribnif Software has announced for imminent release the amazing new "*XBoot*—The Boot Manager" program for the Atari ST/TT and compatible personal computers.

This program has been designed to let the user regain control of the increasing number of AUTO folder programs, desk accessories, and configuration files that are used when booting the Atari computer. Running as the first program in the AUTO folder, it lets the user independently control each AUTO folder program or desk accessory. *XBoot* also lets you configure special setups, which allow you to customize the system for different applications, all at the click of a button.

Unlike any other program of its type, *XBoot* has a true GEM-like interface, which is available directly from the AUTO folder at bootup. You work with a real mouse pointer, dialogue boxes, scroll bars, buttons, and alert boxes, just as if you were in a regular GEM program.

XBoot will carry a list price of $39.95. A special introductory price of only $29.95 is currently available, on orders placed directly with Gribnif Software. Shipments will begin the first week in January, 1992. To place an order, or for more information, please contact Gribnif Software directly.

Gribnif Software, P.O. Box 350, Hadley, MA 01035. Tel: (413) 584-7887 Fax: (413) 584-2565

Codehead to Take Over Quick ST Support!

As of January 1, 1992, CodeHead Software will be taking over worldwide development and distribution of the popular *Quick ST 3.0* software accelerator!

Darek Mihocka, the original creator of *Quick ST*, is selling the flagship product of Branch Always Software in order to spend more time developing a PC based Atari ST emulator.

Quick ST 3 is a program that intercepts GEM's screen output routines, and replaces them with highly optimized assembly language code that is much faster. Windows pop open, graphics appear instantly, text zaps onto the screen at high speed, and everything you do with your computer takes less time. *Quick ST* is now the only US-made screen accelerator that is still being actively supported.

CodeHead will also be handling updates from older versions of *Quick ST*. You can upgrade to the latest version by returning your original *Quick ST 2.x* master disk to CodeHead Software along with a check or money order for $20. Owners of Softrek's *Turbo ST* (any version) may also upgrade to *Quick ST 3* by sending in your *Turbo ST* master disk and $20.00.

The retail price of *Quick ST 3* is $34.95; to order, contact your local dealer or call the CodeHead order desk at 213-386-5735. Mastercard, Visa, and American Express accepted.

CodeHead Software, P.O. Box 74090, Los Angeles, CA 90004. Tel 213-386-5735 Fax 213-386-5789.

CodeHead Announces the TOS Extension Card!

CodeHead Software is proud to announce the TEC—the TOS Extension Card! This amazing little circuit board, developed by Germany's Artifex, allows you to use the very latest version of Atari TOS (2.06) in your existing 520ST, 1040ST, or Mega ST! That's right! Now, you can have the same excellent new system software that owners of Mega STes and TT030s are enjoying, without spending megabucks for a whole new computer system. In fact, the price for this upgrade, including the board, is only a little bit more than the price to upgrade from TOS 1.0 to TOS 1.4!

The TEC is a tiny card that will fit in ANY model of ST computer, regardless of design. It is compatible with existing upgrades, such as monitor interface boards or processor cache cards. The low price includes the ROMs containing TOS 2.06—and there sure are lots and lots of new goodies in those little chips! TOS 2.06 is a *major* upgrade to the ST's operating system; it's a vastly more significant upgrade than from TOS 1.0 to TOS 1.4 (Rainbow TOS). The most noticeable change is the new desktop, which has many of the features of the popular commercial alternate desktops (and some unique features too!), but with two BIG advantages: it does not use large amounts of RAM, and it does not need to be loaded from disk.

The TOS Extension Card can be installed in any model of ST within minutes. Its size is a mere 2.5" x 2.5", and its unique design allows it to be placed almost anywhere inside the case of the computer. This means that it will even work if you have a hardware accelerator, MS-DOS emulator, or graphic card already installed. Some simple soldering is required to install the base model of the TEC; any authorized dealer should be able to handle it easily.

There are also two other configurations of the TEC that are 100% plug-in solutions, requiring no soldering: 1) the TECbridge BUS card, which plugs into the processor bus of the Mega ST and 2) the TECbridge CPU, for computers which have socketed 68000 chips. This option plugs into the CPU socket, and requires that there be enough room above the CPU within the case.

The retail price of the TOS Extension Card is $139. This price includes the TEC board, Atari's official TOS 2.06 ROMs, a disk containing the official Atari system utilities (including the new XCONTROL Control Panel), and a manual describing the installation of the TEC and the new features of TOS 2.06. The TECbridge BUS and TECbridge CPU options are priced at $155.

The TEC will begin shipping on January 10, 1992 (maybe even sooner, depending on how long it takes to translate the manual); advance orders are being accepted now. Of course, we won't charge your credit card or cash your check until your order has been shipped. To place an advance order for the TEC, call the CodeHead order desk at 213-386-5735. Mastercard, Visa, and American Express accepted.

CodeHead Software. P.O. Box 74090. Los Angeles, CA 90004. Tel 213-386-5735 Fax 213-386-5789.

New ST Book: The ST Assembly Language Workshop

Taylor Ridge Books, (203) 643-9673.

Taylor Ridge Books has announced the release of *The ST Assembly Language Workshop, Volume 1*, a novice's guide to assembly language programming on the Atari ST line of computers. Written by Clayton Walnum, the author of *C-manship Complete*, *The ST Assembly Language Workshop, Volume 1* teaches the basics of assembly language programming, starting with assembly language theory and building up to full-length programs. Covered in the 260-page book are the most-used 68000 assembly instructions, programming style and technique, file handling, printer output, system clocks, color palettes, screen flipping, loading pictures, and more. A complete 68000 instruction reference is also included. When it's released later this year, Volume 2 of the series will cover GEM programming, with Volume 3 tackling various advanced topics. After studying all three volumes, readers will have developed the skills needed to write virtually any type of program on an ST. Even after reading only volume 1, the novice assembly language programmer will be able to write full-featured TOS programs. *The ST Assembly Language Workshop, Volume 1* comes with a disk containing all sample programs and assorted additional files. It is priced at $24.95, plus $3 shipping and handling and can be ordered at the phone number above. Visa and MasterCard are accepted.

Canadian Atari Users Convention

On April 4th and 5th, 1992, Atari Canada and the Toronto Atari Federation (TAF) will host what may be the most exciting Atari event in North America in 1992. To be held at the Skyline Hotel, the 1992 Canadian Atari Users Convention will feature the most outstanding developers in the Atari world with some of the latest programs and program updates. Local dealers will exhibit the latest hardware and peripherals, and user groups from across Canada and the United States will be on hand to share Public Domain and Shareware programs and exchange knowledge. Doorprizes throughout both days of the show, special show prices and several major door prize packages will add to the excitement.

Packets for dealers and developers are being prepared and should be mailed in January. Information packets for user groups will be available at around the same time. The Skyline Hotel will be offering special room rates to participants, and special travel plans should also be announced shortly.

To be placed on the mailing list for Convention information, please send your name, address, and affiliation (developer, user group, dealer, etc.) to TAF's mailing address: Toronto Atari Federation, 5334 Yonge St., Suite 1527, Willowdale, Ontario, Canada M2N 6M2

Gribnif Announces Crazy Dots Video Display Adapter

Gribnif Software has announced the imminent North American release of their new Crazy Dots video display adapter for the Atari Mega ST, Mega STE, and TT/030 personal computers.

The Crazy Dots video display adapter allows the Atari computer to drive a variety of VGA, Multi-Sync, and other high end color and gray scale displays. The adapter supports resolutions up to 1,664 x 1,200 pixels, and can display up to 256 different colors or gray levels at once.

Developed by TKR in Germany, the adapter is the fastest of its kind, offering the ability to switch the display's physical resolution from within any GEM program. Among its numerous features are:

o Display of 256 colors or grey levels from a palette of 16.7 million in any resolution from 320 x 200 up to 1,280 x 800 pixels.

o Extended resolution support up to 1,664 x 1,200 pixels in monochrome, four, eight, and sixteen color modes.

o Software uses an exclusive line–A–emulator, for maximum software compatibility (depending on the selected display mode).

Crazy Dots is available in two models. The Crazy Dots Megabus model, designed to fit into Atari's original Mega ST2 and Mega ST4 computers, is available for $949. The Crazy Dots VME model, designed to fit into Atari's Mega STE and TT/030 computers, is available for $999.

To place an order, or for more information, please contact Gribnif Software directly: Gribnif Software, P.O. Box 350, Hadley, MA 01035. Tel: (413) 584-7887, Fax: (413) 584-2565.

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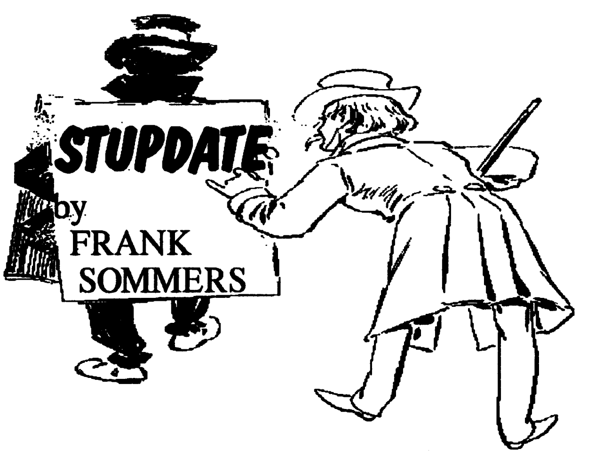


CATCHING THE WAVE OF THE FUTURE, MULTI-MEDIA, WHAT IT MEANS AND WHAT IT IS

T.R. Reid, Tokyo Bureau Chief of the Washinton Post, spins a vivid web of the future of computers...

[ST Update devotes its column this month to a replay of the best depiction of multi-media that we have encountered, which appeared in the Washington Post newspaper on 30 December of the year just past.]

"Mom, what's this thing?"

"Billy, are you up in that attic again? If I've told you once, I've..."

"But Mom—there's so much neat old junk up here! Look at this thing I found: it's sort of a metal box with a glass window in it. I saw a picture of this thing on my history disk at school. It was called, what was it? A 'television set,' right?"

"No, that's not a TV set. That's a display monitor for a personal computer. It's really a museum piece now. Your dad and I bought that, let me think, it was right after we got married. So that would have been back in 1992."

"But Mom~~,~~—it looks just like the televison set we saw in history class."

"Yeah, it looks a lot like a TV. And inside, it's basically the same piece of machinery. But back then you couldn't use this thing as a TV. You used this as a computer display. You had to buy a different box, even though it looked just like this, to be your TV."

"You mean, everybody bought separate machines for TV display and for computer display? Didn't they know it was the same thing? Anyway, why didn't people just use the MMM? It's much more convenient."

"In the first place, Mr. Smarty Pants, hardly anybody had a Multi-Media Machine back then. Nobody really knew what multi-media was all about. The people who made TV sets thought it was television technology. The people who made computers thought it was computer technology. Back then it was hard for people to see that computers and TV are really the same thing."

"Mom, look at this weird thing! I saw one of these old gadgets in that movie 'Back To the Future XXVII.' They called it a 'telephone'."

"Sure, everybody had telephones back then. That's how you talked to people. You had to look up a person's number before you could call him."

"But Mom? Why didn't you just tell the—what is it?—the 'telephone' the name of the person you wanted to call?"

"Well, Billy, it was too expensive to buy that much memory back then. Nobody could have imagined MMMs like we have today, with the number of every home and business in the world stored in memory."

"Mom, what's this little box?"

"That's a fax machine. That's how we used to send letters and maps and stuff to each other."

"Why didn't people just use the MMM to call their friends and send facsimiles?"

"I told you, Multi-Media Machines were really rare back then. You think it's so obvious that TV and computing and communication should all be integrated in a single machine. But once upon a time, these were all separate tools. People had a computer on the desk and a telephone next to it, and a TV on the other side of the room.. The radio and the VCR and CD player were all separate machines, too."

"Sure, Mom. Next you're going to tell me that the tooth fairy is real. How can I believe what you're saying? It's obvious to anybody that all these things are just one tool."

"Of course. The radio, the television, the telephone, the fax, the computer, tape and disk players—they're all just different ways to transmit and store information, or 'media,' if you want to call it that. But they were all invented and developed at different times, so for many years they were considered distinct tools. It was right about the time we got married, about 1992 or so, when somebody got the idea to combine all the information-processing tools in our life into a single machine."

"Who thought of the idea, Mom?"

"Well, a lot of people had the general idea. But there was one farsighted person who was really obsessed with developing it. C'mon—you must have learned about him in school."

"Gimme me a hint, Mom."

"Okay. It's somebody you see on the news just about every day."

"President Quayle?"

"No, Billy. The guy who really pioneered the Multi-Media machines we use today was a computer programmer who started his own software company. He was one of the first to realize that all forms of media should be integrated into one machine. He was the guy who really popularized the concept of 'multi-media.' Back in the 20th century, he went around the world trying to sell people on the idea that all the forms of communiocation should be transmitted, manipulated and stored on a single device called a 'Multi-Media Machine.' And his name—you must have heard of him—is Bill Gates."

"You mean the guy who owns Japan?"

"Billy, he doesn't own Japan. He just bought all the real estate there because he didn't have any place left to invest the money he made. He was a visionary, and you ought to know about him. I have a book about him around here someplace."

"Mom, what's a book?"

Atari & 1992 Bits & Pieces

As the year opens, Atari loses another head of its North American operations. Gregg Pratt was the man, who understood Atari, understood its financial structure, understood its people and the convoluted hierarchy you needed to weave your way through to get things done. Despite a brave new face and words of corporate inspiration, designed to convince all that the impossible dream of making Atari a genuine computer company wasn't impossible, despite all of that, in early January Pratt left Atari for another computer developer, CDC, to further his fame and fortune.

Barring the sudden announcement of a new "magician" rolling like thunder out of the west, that leaves the B&R boys to preside over the smoldering ashes of a once fancy and momentarily farsighted computer enterprise. Brodie, recently titled Director of Communications, and Reebock, who presides over the waning web of dealers and developers, have little left to drag out of the box and dazzle the might-be Atari buyers with.

• The CD-ROM machine has been officially buried at sea. Atari has no plans to bring it to market.

• The TT, the one that might sell, the new one that doesn't exist yet with FCC clearance to be sold to the non-business user, with all its broken bones reset, will, if it does appear, cost several hundreds of dollars more than a equally powerful, fully functional, super VGA color IBM clone.

• The National Association of Music Manufactuers saw Atari at the end of January pushing the still unavailable STBook as the answer to MIDI-music (remember the STacy had the role until it vaporized.)

• In Annaheim, on 30 January-2 February at NESA, the big boys version of direct to print machines and software, Atari may try to pose as less-expensive and just as powerful as the current dominant figures in that market. However, that is a world that the average Atari user and owner will likely never see, a world where "a package" is less-expensive because it sells for $22,000 rather than $34,000.

Finally, we were sorry to hear about the coming apart of the leaders at *ST Informer*, one of the better Atari journals. The godfathers of *Universal Item Selector* and *Universal Network*, Mike Lindsey and Chris Latham are rumoured to have decided to go off and start a second Oregon Atari journal. A courageous move at this point in Atari's history. We wish them the best of success and look forward to reading their first issue.

Single - Sided Disk

Your First 16 MHz Floppy:

Double - Sided disk

High Density on the ST

High - Density Disk

(C) 1992 David C. Troy

When high-density 1.44MB floppy drives became available for the rest of the world, ST users looked on, thinking, "Gee, that's kind of nice but who really needs it?" But a secret, inexplicable desire for doubling disk capacity festered within, and as a result, the high-density issue has moved well into the foreground of the ST world.

I remember the first time I doubled my disk capacity. I was 12 years old. I had a 1050 disk drive on my eight bit, and I'd bought a double-density Percom drive. Going from 90K to 180K was exhilarating. Many files were converted to the new, higher-capacity format. Later, doubling disk capacity would prove to be a cathartic ritual of youth.

Not a year later, I obtained a 360K, double-sided, double-density drive mechanism. My dad let me borrow it from his CP/M computer, just to see if my fiendish complication would work. I plugged it into my Percom, and obtained an astounding 1428 double density sectors, up from 707 double density sectors. I had to give the drive back, but it wasn't too much longer before I'd purchased a fine array of equivalent drives, and some of them even worked!

By the next year, the mother of all eight-bit disk drive controllers beckoned me forcefully. The ATR8000 was soon mine, and Quad-Density wasn't far away. This meant a full 720K on each disk, no flippies necessary. So, I rigged up all my drives (a few quad-density drives, some double-sided, double-density drives, et al.) and I was ready to get my BBS online, with several megabytes of downloadable files. Megabytes were cool. Nobody had Megabytes of stuff.

There were a couple of false starts on the disk-doubling front. Before I learned the lesson of "Computers Don't Mean Everything They Say," I'd convinced Sparta DOS to format drives in 1.2 megabyte formats, or stock 1050's at 300K. I'd bound gleefully through the house, telling all available personnel, "All worries are over, all disk-capacity concerns are void." My Mom grew tired of my war chant, and with all the repeated proclamations of doubling or quadrupling my computer's capacities even if they weren't true, my parents could have rightfully assumed that I had reached 20 MB per disk. But they didn't. My parents still barely believe me when I say I've doubled my disk capacity.

How Do ST Disks Work?

When you look at how a disk is written, you see that there are so many surfaces per disk, so many tracks per surface, so many sectors per track, and so many bytes per sector.

A track is a circle about the width of the drive head located at a fixed distance from the center of the disk. On a single-sided ST disk, there is one surface and that surface is divided into 80 concentric tracks. On a double-sided ST disk, there are two surfaces and they're both divided into 80 concentric tracks, for a total of 160 tracks.

Each sector is an equidistant arc of a track. On the standard ST/IBM single or double-sided disk format, there are nine sectors per track. Each sector contains a stream of bits, which take the form of analog "blips" that fall above or below a certain threshold level to produce a logical 1 or 0 in the disk drive circuitry. A long time ago, somebody high-up in the floppy-disk-format hall of fame proclaimed that a sector will contain 512 bytes, or 4,096 bits, and this is still true for standard ST and IBM disk formats.

Normally, the ST's drive controller chip (a Western Digital 1772 or a workalike), squirts bits out to the disk drive at a rate of 256,000 bits per second. It does this because it receives an 8 MHz clock signal from the ST, and the controller's data rate is governed by its clock rate. The data throughput rate of 250K bits/second is what determines the number of sectors per track by determining the maximum rate data can be written in a fixed period of time.

How Do High-Density Disks Work?

What if we were to double the clock signal to the drive controller chip and give it a full 16 MHz? The controller's data rate would double to 500K bits/second.

A doubled data rate would mean that every track would contain twice as much data, because the drive head would be fed data to write twice as quickly. And because sectors have been declared to contain 512 bytes no matter what, each track would also contain twice as many sectors, 18, in fact.

For there to be twice the sectors in a track of the same size, the sectors must be physically half the size they were before. But for there to be the same amount of information (512 bytes) in a sector that's half the size of their normal counterparts, the data must be written doubly dense in each sector-highly dense, in fact.

The dense packing of bits is caused by the doubled data rate. The doubled data rate is caused by the doubled clock rate. And the doubled clock rate needs only to be caused by you, the user.

How Do High-Density Drives Work?

There's not a great deal of difference between high-density and double-density drives. Both rotate disks at the same speed, use the same sorts of connectors, and can read double density disks.

High-density drives have some extra features. They can accept the faster data rate and can also detect when a certified high-density disk is in use with a small switch whose probe either pokes up through a "high-density-keyhole" or doesn't. The keyhole is not present in low-density diskettes. The high-density diskettes have a better quality coating that reliably holds the denser data. Those are just about the only real differences.

Unlike some other disk-doubling techniques, like the fabled 5.25" Quad-density, the variable is the data rate—not the number of tracks on a disk. Quad-density changed the number of tracks on a disk, which meant that the read/write head had to be twice as narrow to avoid bleeding over into other tracks. And because the head is too narrow to properly read a double-density track, this meant incompatibility with standard double density diskettes.

High density drives have no incompatibilities with double-density diskettes. They use the same size head. Only the speed at which they work is varied. This is a great advantage.

High-Density on the ST?

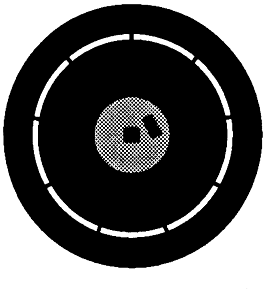
Every chip on the address bus of the ST is specified to run at 8MHz only. Even the drive controller chip. So right away we've got a problem: how can we run the drive controller at 16 MHz without burning it up? Well, we can either push our luck or buy reliability. Both have been known to work fine.

Some machines have been equipped with WD1772's that have a "-02" suffix on their part number, indicating that the chip is rated for speeds up to and including 14 MHz. Running them at 16 MHz, although not recommended by your pharmacist, works for me. When a 16MHz clock signal is applied to a 1772, it is capable of reading and writing high density disks.

Try It-To Make a Point

If you ST users want to try something fun, and promise not to

Some Popular Disk Formats



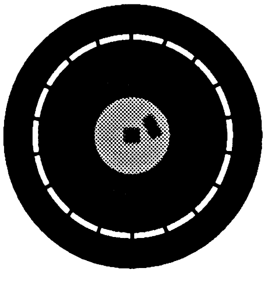
ATARI ST / IBM DOUBLE SIDED:
Two Sides, 9 Sectors Per Track,
512 Bytes Per Sector is
720K Per Disk.

DISK FORMAT	Kb/ Sec	Sides/ Disk	Tracks/ Side	Sectors/ Track	Bytes/ Sector	Sectors/ Disk	KBYTES/ DISK
ST SSDD	250	1	80	9	512	720	360
ST DSDD	250	2	80	9	512	1440	720
ST DSED	250	2	80	10	512	1600	800
ST DSHD	500	2	80	18	512	2880	1440
ST DSEHD	500	2	80	20	512	3200	1600
1050 SSSD	250	1	40	18	128	720	90
1050 SSED	250	1	40	26	128	1040	130
1050 SSDD	250	1	40	18	256	720	180
5.25" DSDD	250	2	40	18	256	1440	360
5.25" DSQD	250	2	80	18	256	2880	720
5.25" DSHD	500	2	80	15	512	2400	1200

The Disks of Time

It's useful to see the progression of floppy disk formats through the ages. Note the striking similarities between the older 5.25" and the newer 3.5" formats. Not much has changed.

Code for the chart:
xS: x=S/D. Single or Double Sided
xD: x=S/D/E/H/Q. Single Double, Enhanced, High, or Quad Density.



ATARI ST / IBM HIGH DENSITY:
Two Sides, 18 Sectors Per Track,
512 Bytes Per Sector is
1.44MB Per Disk.

To 16MHz or Not to 16MHz? If your upgrade won't switch into 16MHz properly, you'll be sad.	A, AHD, BHD	A, AHD, BDD	A, ADD, BHD	A, ADD, BDD	B, AHD, BHD	B, AHD, BDD	B, ADD, BHD	B, ADD, BDD
A DRIVE SELECT	ON	ON	ON	ON	OFF	OFF	OFF	OFF
A HIGH DENSITY	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
B DRIVE SELECT	OFF	OFF	OFF	OFF	ON	ON	ON	ON
B HIGH DENSITY	ON	OFF	ON	OFF	ON	OFF	ON	OFF
FDC 16 MHz?	YES	YES	NO	NO	YES	NO	YES	NO

Don't Go Too Fast

If your upgrade switches into 16MHz at the wrong time, you won't be able to read DSDD disks! Use this chart to see how your upgrade **should** handle the 16MHz decision!

Code for the chart:
x: Accessing drive x
xDD: DD disk in Drive x
xHD: HD disk in Drive x

Note: High Density Select for a given drive **will** be ON if no disk is installed in that drive, due to the nature of the drive's HD switch.

92 DCT

call me after you fry your machine accidentally, bend up pin 18 on your drive controller chip (-02 models *only*), to release it from the 8 MHz clock signal, and run a small wire from pin 39 of the video shifter chip (usually CO25914) to pin 18 of your drive controller chip. With a high density drive installed in place of your ST's standard drive mechanism, selected as drive 0, turn on your computer and try to read a high density disk written on an IBM. You should be able to read it without difficulty.

All you're doing there is supplying the 1772 with a 16 MHz clock signal. That's it. You'll note that you won't be able to read double density disks in that configuration—only high density disks. That's because the controller is stuck running at 16MHz, and we've made no provision for bringing it back to 8 MHz.

So now what we need is a switch, such that when a high density disk is installed in the drive, the controller will automatically be switched to 16 MHz. And when one isn't installed, it will be switched to 8 MHz.

Field of Dreamparks

There have been several little boards which have come out to handle just this task of switching. There's the Dreampark board, which I've had little luck and zero support with, and it even goes so far as to use a different controller chip. There have been others which don't make any provision for properly supplying an 8 MHz clock. The design I favor, which is one I figured out independently of Mr. Paul Wu, is the Wuztek Peripherals HDrive module. When I saw his board, I said, "Gee, that's just what I was thinking." It contains a 16 MHz crystal, for a clean unattached 16 MHz clock, as well as circuitry to switch between 8 and 16 MHz depending on the drive's high-density select line, which is controlled by the little switch we discussed earlier. It uses a workalike to the 1772 by VLSI (a large IC manufacturing company) which is, in fact, rated for 16 MHz use.

Atari Mega STe & TT030

There was a lot of speculation from the rumor mill about the possibility of these machines containing high-density drives from the factory. Until recently, TT030's were not shipped with high-density drives, and little has been said about installing them into Mega STe's. For most TT's or Mega STe's with 1772-02 chips in them, all you have to do is plug them in--they work fine. Atari has not wanted to ship computers with high density drives installed until they had a proper controller chip, one rated to work at 16 MHz, or until they had all the FCC noise related problems settled down, which would not be helped by a high density drive.

For Atari, the solution is called the "AJAX" chip, which is an Atari custom 1772 clone. Atari recently announced availability of "high density" kits for the TT and Mega STe machines, and they will include an AJAX, a high density mechanism, and perhaps some other little doo-dads. Since I haven't seen the kits yet, I can't say what doo-dads we're talking about. I can say that I have a TT and a Mega STe that I've upgraded to high density myself, sans doo-dads or AJAX, that work OK. I can't help but think that the extras will insure reliability, though.

The Three R's: Reading, Writing, and Formatting

Reading and writing are the least of our worries. Once you have a proper 8 MHz/16 MHz switching system installed (be it Wuztek in a ST/STe/Mega, a Mega STe/TT030, or a DPDT switch mounted on your machine), reading and writing on HD disks is just as easy as it is on DS disks: just do it. Formatting, however, will prove to be the real 'rithmetic of the equation.

On the Mega STe and TT030, TOS 2.05 and 3.05 and up contain code to handle high-density drives, and all you have to do to enable the built-in TOS HD formatting option is switch the seventh dipswitch on the circuit board under the hard drive bay. Then, when you select *Format Diskette* from the desktop, you will have the option of formatting high density disks.

The other ST machines are another story, however. You will need a program that handles formatting in high density. Bob Luneski, programmer of *Diamondback II*, supports high-density disks in *DBII*, and he also has written a desk accessory called DFORMAT.ACC that will do wonderful high-density formats, all the way up to 20 sectors per track. That will get you about 1.7 MB on a floppy. Neat, huh? I can not tell for I do not know if his desk accessory is in the public domain, but you could always buy *Diamond Back II* or call him directly.

The different high density upgrade kits for the ST all come with formatters, as well, but the DFORMAT has been the best I've seen.

With the advent of TOS 2.05 for the entire ST line, there's no reason why you can't use TOS's built in high-density formatter on those machines as well.

On the 520/1040STe, there are two rows of adjacent solder pads analogous to the dip switches in the Mega STe and TT, and if you solder the seventh solder pad and have TOS 2.05 installed, you will have access to the high-density formatter, just as in a Mega STe. Atari has released pricing to dealers on this chip set and for existing STe's (and new STe's) without TOS 2.05. The chip set will cost around $99 and is a simple plug-in installation.

TOS 2.05 for standard ST's will involve a more complex installation. Codehead is importing a board from Europe that will allow TOS 2.05 to be used on a standard ST/Mega. Because of the increased size of TOS 2.05 (both physically and mentally), the chips must be installed as a separate bus device and this will require desoldering the 68000 in most cases. I don't know if their board will support the seven-dip-switch thing yet.

Spectre GCR: Be Wary of 16 Mhz Disks

Because HD drive mechanisms are essentially the same as DD mechanisms, and we're using the same controller chip, there's no reason why Spectre GCR shouldn't be capable of reading and writing to standard 800K Spectre/Mac format diskettes. Spectre does not currently support HD Mac or Spectre formats.

I've found that both my HD Mega STe and TT030 work fine in Spectre, as long as I'm sure to access a DD diskette **before** I enter Spectre. This puts the computer into an 8 MHz floppy mode and Spectre is stuck thinking about disks exclusively in 8 MHz. I am certain that Dave Small is addressing this issue for a future release of Spectre. I have not tested any PC emulators with HD drives yet. I wouldn't expect any problems, though.

High Density Select Woes

You will want to make sure, whatever drive or upgrade you use, that when you have a high-density disk installed in the drive you're accessing, the drive controller runs in 16 MHz. You will also want to make sure that when you have a high-density disk installed in your A drive, and you're trying to read a double-density disk in your B drive, that the machine doesn't put the controller into 16-MHz just because **one** high-density disk is installed. If this happened, you wouldn't be able to read your double-density B disk. Instead, you need an upgrade which will handle this switching automatically.

With some drives, when they have a high-density disk installed, they express it by pulling pin 2 **low** (closer to 0 volts than 5 volts). Some drives express it by putting it **high** (closer to 5 volts). Some drives can be told how to express it, usually with a jumper labeled something along the lines of "HDL" or "HDH," for low or high respectively. Some drives don't express high density select on pin 2. You will need some fairly detailed technical information on your drive if you aren't lucky and have it work on the first try, as my experience was. I have tested Teac and Epson mechanisms with good luck.

Speed

We casually slipped in that the data rate for high-density diskettes is doubled to 500K bits/second. While this ostensibly has the effect of doubling disk drive capacity, it also means that programs and data will load twice as quickly from a high-density disk. Of course, a whole disk will take the same amount of time to read, but you're reading twice as much now! This is a handy bonus and could even be the best reason for owning a high-density drive if you don't have a legitimate need for one.

Tinker Around

See what you can do on your machine. Now that you understand the basics, the worst you can do is fry your machine! It's really very easy to get a high-density drive going once you understand the essentials of their operation.

Other News

It's back to school for me next week, so I will stop here to preserve column material for next month. There are **many** exciting Atari developments and goings on. I'm going to have lots to say over the next few months. If you want to chat about the HD disk drive thing, please feel free to call or drop a note. See you in March!

Reaching Me:
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The Junkyard Pussycat

by John Barnes

Out with the Old?

Out with the Old?

The turn of the year seems like as good a time as any to prowl around and see what people have been bringing into the Junkyard. They bring all kinds of things: shopworn old things that they no longer use, slightly damaged new things that collided with their tastes, useless articles that didn't work as advertised.

The Pussycat is appalled at the meager stock of things that are nearly new. That bodes ill for the junkyard business, because traffic drops way off when people don't find anything interesting when they come to browse around.

Another appalling thing was the look on people's faces when they were told what their old stuff was worth. I'm sure that a lot of these people thought they might get enough for at least a down payment on a shiny replacement from a clone manufacturer. The junkyard owner couldn't do anything about it except to point to the stack of old wares and explain that it simply wasn't moving.

There is a little group of fanatics who come by every now and then to buy an old hulk that they can cannibalize to keep another computer running.

There are also a few people who insist on stuffing things like memory upgrade boards, CPU accelerators, fancy video output boards, and other gadgets under the hoods of old machines. While most of these people insist that they do this to improve handling, the Pussycat suspects that these folks are actually a bit like custom car enthusiasts or hot rodders, although he has never been invited to a real *Concours d'Elegance*.

The "Ultimate," Back Then

The *Smithsonian* magazine for December 1991 (that someone dropped in the waste basket in the junkyard office) described the fanaticism of Studebaker owners. The Pussycat can date himself by saying that he is old enough to have actually ridden in brand new Studebakers as a teenager.

Will the Atari computer go the way of the Studebaker? It begins to appear likely. Sure, people will keep on driving them until something fails catastrophically. There will be a niche market in replacement parts and performance upgrades for a little while. The company may even be able to survive under its original name for a time by making other products–handheld video games, for example.

The Studebaker story is more complex than the Pussycat's simplistic allusion would suggest. The company was in business for more than a hundred years. It changed from a maker of solid covered wagons into a maker of innovative and daring automobiles. It got through hard times by making military vehicles (in the Civil War, as well as World War II).

Does the present phase of Atari's existence mark the transition from producing the computer analogue of covered wagons to producing racy automobiles or is this phase the twilight before the dark hole opens wide?

It should be noted that today, nearly 30 years after Studebaker finally succumbed to relentless price competition from Ford and GM, there are some 12,000 loyalists who have banded together in the Studebaker Drivers Club. The ways in which they celebrate their love for their show pieces reminds the Pussycat of sentiments that he has heard from some of his more eccentric Atari acquaintances.

How will we be celebrating Atari in a few years? Only time will tell.

In with the New?

At this year's COMDEX show in Las Vegas, Apple Computer Corporation unveiled a new line of "notebook" size computers. A few days later they could be found in local dealerships. By the end of the week, magazine reviews were in the hands of subscribers. A couple of months later, they were plentiful enough for the price slashing to begin. *TIME* Magazine, in its "Man of the Year" issue, praised the Powerbooks as an example of outstanding design for 1991.

Meanwhile, back in Slumbervale, what is happening to the tattered prototypes of the ST Book that were trotted out at CeBit, the AtariMesse, Glendale, and Comdex?

It took nearly 12 months for the Mega STe's, Atari's big surprise at Comdex '90, to work their way into serious distribution. Of course, a glitch with FCC class B certification and a need to rework the TOS slowed things down a bit. It also turned out that Atari owners could not buy the stripped out version of the Mega STe and use it as a housing for their existing hard drives.

It seems like it has taken three years for the TT to work its way from CeBit to the desktops of U.S. users.

Atari's promotional work on the TT seems to be oriented toward the desktop publishing market using software brought in from Europe. We will have to wait to see whether this product line can penetrate the print shop market.

Do these products, so long in coming, really open new horizons for *Current Notes*' readers? The Pussycat is doubtful. In his eyes, the Mega STe does not offer enough speed or increased graphic capability to justify spending $1,200 or so. While the 16 MHz clock rate may speed up some applications, the CPU is still tied to the original ST DMA and memory busses. People who are into networking may like the built-in port that runs at LocalTalk© speeds if they have applications that can use this capability.

With a 32 MHz clock rate attached to some faster RAM, the Atari TT could be a pretty agile beast. Memory capacity has been expanded and this may help in some applications. Unfortunately, the high-resolution color display is still not up to Macintosh standards. Early reports of electrical interference problems with disk drives and a stiff price to populate the memory boards are substantial deterrents to an immediate purchase. Machines currently in stores also lack FCC Class B certification, but vendors seem to be able to find ways to make homes into offices and sell them anyway. The supply of machines increased dramatically following the Chicago show. It also looks like there is some downward pressure on prices.

Unfortunately, it appears that the there are some supply problems with the special daughterboards that are needed to upgrade the fast RAM. There are also rumors of a Class B certified TT for release this spring. Power-hungry users may be wise to hold off for a while longer before upgrading. In any case, the price will force a long, hard look, and the top end machines may prove attractive to only those users whose investment in software is so substantial as to bankrupt them if they tried to replace it on another platform.

Follow this with an announcement that Atari has decided to forgo the marketing of its CD-ROM disc drive after three or four years of development and you soon form a picture of Atari as a company that simply does not know how to create new products and bring them to market.

If any of us had had any sense in 1985, we would have put our money with Nolan Bushnell rather than the Tramiels. "Power without the Price" seems irrelevant these days, as Apple and the clone makers seem intent on gathering up the pieces of the market that remain. The software arena also seems to be reflecting the static character of the Atari marketplace. Highly touted new products like *Wordflair* and *Pagestream 2* arrived with too many bugs and too little support. These products also require ample hard disk space and ample RAM, something that too many Atari users have been reluctant to invest in.

Varieties of TOS

Atari's ROM based operating system for its machines has been undergoing steady improvement over the years. However, few Atarians avail themselves of these upgrades. The expense of new ROM chips and a trip to a service center are viewed as too much hassle for an uncertain result.

New versions of TOS are created largely to cope with the demands of new machines. TOS 1.0 was the belated implementation of the ROM-based operating system that was supposed to ship with the first STs. TOS 1.2 was needed to cope with the new features of the Mega STs. TOS 1.4 arrived at about the same time as the STacy, but it was important to everyone because it repaired some real screw-ups in the earlier versions. TOS 1.62 is the fixed version of the operating system for the STe machines, but it is not a radical departure.

TOS 1.4 was slow to win widespread acceptance. A price of around $100 for the dealer-installed version and the slow arrival of a chip set for the Mega STs probably contributed to this. More recent pricing on the chips has apparently sparked some interest. The Pussycat was among those who upgraded early and he felt that it was worthwhile because it fixed the infamous "40 folder bug" and the "reset the date when copying insanity." Smoother floppy disk reads and an improved file selector were side benefits.

TOS 2.06, which is the latest release for use with the Mega STe computers, is a major step in a new direction because it reorganizes the way in which desk accessories and "control panel devices" are handled. With a new desktop and new flexibility for choosing between the keyboard and the mouse, the new TOS looks a lot more like *NeoDesk*. This is likely to affect a broad range of software applications. Owners of STes will only need to install new ROM chips. Owners of earlier model ST computers will need an add-on board called the TEC (for TOS Extender Card) that Codehead software should have brought in from Germany by the time you read this. Unfortunately, it looks like the TEC will be a rather intrusive add-on, with some soldering required.

Computer operating systems cannot remain static. They must evolve to cope with the demands of changing hardware and software. One hopes that bugs will be exterminated and that the user interface will be improved during the process. Unfortunately, this presents software developers with a burden, in that they must sight on new targets without losing track of old ones. ST developers, in particular, would severely restrict their sales if they failed to support older versions of the operating system.

The Pussycat wonders how much effort it would take to provide disk-based patches that users could install to bring older versions of Atari's operating system up to current revision levels. The problem may be complicated by changes in address mapping, but it should be possible to work around that one. The user might find that he likes the new version so much that he will go to the trouble of having new chips installed.

Contrast this, once again, with Apple Computer's approach in which user groups all over the country can dish out the latest operating system software for the Macintosh for the price of the media and disk duplicating services.

Software Favorites

In *Current Notes'* December issue, Mike Heininger listed his favorite ST/Mega software. The list was interesting because it omitted many of the things that the Pussycat finds absolutely vital to his work with his own computers. The differences and the overlaps say a great deal about how different people use their computers.

Table 1 lists the Pussycat's "Work Favorites." The Pussycat simply does not do games, so there is no list of game favorites. The Pussycat's world is also monochrome, as indicated by the absence of programs that require a color monitor.

The Junkyard Pussycat's 20 Work Favorites

1. Universal Item Selector
2. Hotwire
3. MultiDesk
4. Superboot
5. Quick ST (ver 2)
6. Word Perfect
7. Publisher ST + Ultrascript
8. Calamus
9. Tempus II
10. Phasar Ver. 4
11. dBMAN
12. LDW Power
13. ST Scan (and ST Copy)
14. Touchup
15. Image Cat
16. Flash
17. ST Aladdin
18. GOOD backup
19. ICD Fast Tape Backup
20. ICD Cleanup

The products in the first group (items 1 to 5) reflect the Pussycat's feeling that ST users, particularly those with hard disk drives, need to customize their environment in order to make their machines responsive. *Universal Item Selector* sits at the top of this list because it provides the kinds of file manipulation functions that users really need from within any GEM application.

Items 6 through 8 reflect the fact that most of the Pussycat's time at the keyboard is spent working with words. Words alone are not enough, however, and the final appearance of a document is very important. Economical desktop publishing is one of the most important fruits of the personal computer era.

While the combination of *WordPerfect* and *Publisher ST* is getting a little hoary with age, it still represents one of the simplest, yet most powerful, ways to put words on paper in a structured manner that is visually appealing. *Calamus* is on the list because it handles graphics very quickly. The word processing aspects of *Calamus* (The Pussycat uses version 1.09N) leave much to be desired.

Tempus II is on the list because anyone who makes serious use of a computer needs a way to scan and manipulate pure ASCII text.

Phasar 4 is quite simply the best tool for keeping track of money on the ST.

dBMAN, while it is not the only database management tool available for the ST, is the only one that has the horsepower that matches the Pussycat's desires.

Every serious computer user needs a spread sheet. *LDW Power* is the Pussycat's choice because of its speed, flexibility, and quality documentation.

Items 13 through 15 reflect the Pussycat's concession to the notion that ideas need to be spiced up with images. *ST Scan* drives a flatbed scanner for importing other people's ideas. *Touchup* is used to doctor up images for output and *Image Cat* helps keep track of the clip art.

Items 16 and 17 reflect the need to reach out with a modem in order to keep up with the latest news or to share ideas with other people. *Flash* is used in those cases where information must be gleaned with manual procedures. *ST Aladdin* makes it easy to pick and choose from the world of information (and misinformation) available on GEnie, Atari Corporation's main outlet for news and technical data.

Items 18 through 20 reflect the Pussycat's obsession with data security. Data that has any value at all cannot be allowed to rest on a hard disk platter. The means for backing it up to another medium must be convenient and reliable.

Is the above list adequate? Does it fulfill all of the Pussycat's longings for software that is enjoyable and productive? The answer is NO. When these products are compared to those on the Pussycat's desk at the office they fall far short. In 1986, the ST products represented good value. In 1992, we need products that are faster and more capable. A DTP program that is also a good word processor capable of handling mathematics nicely is one requirement. Display modes that are equal to those of a Macintosh II (640x480x256) are another requirement. CAD programs that allow useful work without entangling the user in a convoluted interface are another need.

Studebakers were fine basic transportation and even somewhat sporty. The company simply lacked the resources that were required to make them the industry standard. Atari seems to be in a similar pickle.

The Pussycat will keep his pennies in his pocket for a while longer.

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STARTING BLOCK

by Richard Gunter

An Archiver System Disk

Joe Waters recently reminded me that working with compressed files, otherwise known as "ARCing" and "deARCing," is a continuing problem for many users of the ST. Wouldn't it be nice, he suggested, if *Current Notes* could provide a boot disk already set up to do those things?

The result is a set of three disks I've made up, containing the combination of programs that I consider most useful. Detailed tables of contents appear at the end of this column, but here's the basic arrangement.

System Disk Contents

The first disk is intended for use on systems equipped with single-side floppy disk drives. It contains Charles Johnson's ARC Shell program and the two most popular file archivers. It also contains a Ramdisk accessory program and three additional accessories (included as much for illustrative purposes as anything). This disk is formatted as a single-sided disk and should be usable on a 520ST, albeit with some restrictions that we'll get into later. It's set up with a medium-res (color) desktop and ramdisk, and is ready to go.

The second disk is a double-sided disk containing everything mentioned above, plus Double Click's shareware formatter program, a menu-style utility program, Super Boot, and both monochrome and color desktops. Like disk 1, it's ready to load and go.

The third disk contains compressed files for all programs included on disks 1 and 2. Some are in ARC format and others are in the LZH format. This is a double-sided disk; the compressed files contain all the available documentation and the whole collection won't fit on one single-sided floppy.

Some Preliminaries

Before diving into details, let's make sure we all know what we're talking about when we use terms like ARC and Shell.

There is a class of file management utilities whose function is to combine one or more files into a single file, using mathematical compression algorithms to squeeze the result into less space than the originals. These programs can also reverse the effect of the compression to extract duplicates of the original files. One of the earliest programs of this type was called ARC, and any program of this sort is often referred to as an "ARC" program.

Naturally, there's more than one data compression algorithm running around, and more than one way to organize the compressed file. For the ST, two systems are in wide use. One is embodied in ARC 6.02; the other in LHARC.

Both ARC and LHARC have an odd-looking command line interface for execution; you have to specify the operation you want to perform, a list of options, and path information (drive/folder, file name). Thus, to use these programs effectively, you must learn the command structure. Naturally, ARC and LHARC have different commands.

Briefly, a shell program provides a more convenient way of running another program. For the ARC programs, Charles Johnson has provided a GEM program that allows you to run the archiver programs using the mouse. It generates the appropriate command and runs the archiver program for you. With this shell, you no longer have to memorize the command structure for either archiver. As Charles puts it, one of the reasons he got involved with the ST was to get away from that "command line silliness."

The Ramdisk

My personal favorite of the freeware ramdisk programs is still RAMBABY, which was featured in my October 1991 column. It runs as a desk accessory and is not reset proof; i.e., pressing the RESET button will destroy it and its contents. However, its configuration can be saved for use each time you run.

What's Not Present

There's considerable confusion concerning the LHARC programs; I've chosen the latest version done by Thomas Quester (Germany). The confusion arises because Quester's recent versions have introduced a new algorithm that isn't supported by older LHARC programs and extract-only programs. This has caused users of the older programs some frustration when they encounter a file made with the newer program. The latest of Quester's efforts seems to support all of the LHARC file formats, both his latest and the older files. His versions are also reasonably fast. Accordingly, I chose not to include any of the older stuff.

Among the alternatives to ARC and LHARC are the ZOO and ZIP systems. ZIP (also known as PKZIP) is an ARC alternative that is very popular in the PC community. Unfortunately, the only Atari ZIP I've seen is an extract-only program; it can't create ZIP files. Moreover, it can't extract recently made ZIP files because it lacks PKZIP's newer algorithms.

ZOO has its supporters among Atarians, but it doesn't seem to enjoy wide popularity on the commercial services and BBS systems. Finally, I've left out the specialized programs that compress an entire disk and the "pack" programs that decompress a program at execution time. After all, why complicate matters?

There are other ARC shell programs, some of which claim support for the other ARC alternatives mentioned above. I've stuck with Johnson's program for two reasons. First, it works well and is easy to use. Second, Johnson is actively supporting it, and that counts for a lot.

Why Two Archivers?

Both ARC and LHARC are in wide use, so we're likely to encounter files made with either, and the two systems are totally incompatible. Using *ARCShell*, you can deal with either one.

The file extender allows you to determine which program to use. ARC files usually have an extension of **.ARC**, while **.LZH** denotes LHARC files. When you list the contents of an LZH file, the compression algorithm used appears in the listing. Files made with the older LHARC programs show a compression type of "lh1" and the newer files have "lh5" as their type.

Super Boot

As regular readers of this column are aware, I'm a fan of Gordon Moore's *Super Boot* program. This program allows you to configure your entire system at boot time, permitting you to select programs to run from the AUTO folder, accessories to be loaded, and even which configuration files to use for other programs.

Its power is most apparent when it's installed on a hard disk system, but it has its uses on floppy-based systems as well. System Disk 2 contains both monochrome and color desktop files, for example. You can choose the one that's appropriate for your system with Super Boot. You can also use it as an aid to configure a new system disk. I used this method to construct System Disk 1 from Disk 2.

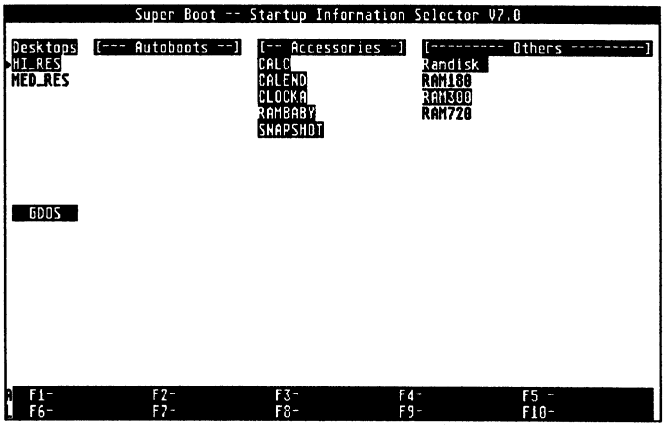
Basic Usage

Let's get into the use of Disk 2, the double-sided disk with *Super Boot*. Using Disk 1 will be a subset of that.

The first thing you'll want to do is duplicate the system disk and put the original aside, just as you would with any commercial disk. That way, it's a simple matter to start over if anything goes wrong.

ARCShell is configured to expect to find the ARC and LHARC programs on the floppy; its configuration information is stored in the program file itself. Also, since *Super Boot* works by renaming files, the disk must be left write-enabled.

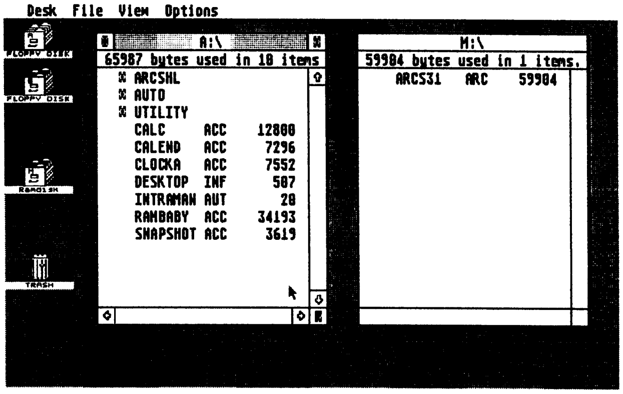
The first display you'll see at bootup is a screen that looks like the figure below. This is *Super Boot's* selector screen. You'll notice several program and data file names arranged in labelled columns. Desktop files are grouped in the first column and accessories and other files are arranged in the others. The GDOS column is empty because we have no GDOS ASSIGN.SYS files on our disk. There's a cursor that looks like ">>" on the screen. Just move this cursor to the program, etc. that you want to include or exclude from this run and press the space bar to highlight it (to include) or remove the highlighting (to exclude). When finished, just press the <ESCAPE> key to execute. For now, the only thing we're concerned with is whether you have a color or monochrome monitor. Highlight your choice; only one desktop can be picked (highlighted).



```
                 Super Boot -- Startup Information Selector V7.0

Desktops  [--- Autoboots --]  [-- Accessories -]  [--------- Others ---------]
▸HI_RES                       CALC                Randisk
MED_RES                       CALEND              RAM180
                              CLOCKA              RAM300
                              RAMBABY             RAM720
                              SNAPSHOT

  GDOS

 F1-        F2-        F3-        F4-        F5 -
 F6-        F7-        F8-        F9-        F10-
```

Now press <ESCAPE> and sit back. *Super Boot* will display a message to the effect that it is revising files, and bootup will proceed. When it's complete, you'll see a desktop like the next figure. The drive M: window will be closed and the ramdisk empty, however. You'll also hear a little ditty played on the monitor's speaker--that's *RAMBABY* telling you that it's successfully created the ramdisk (drive M:).

At this point, you can play around a little. The UTILITY folder contains three utility programs, and the ARCSHL folder contains three programs, ARC–



```
A:\
65987 bytes used in 10 items
  ARCSHL
  AUTO
  UTILITY
  CALC      ACC    12800
  CALEND    ACC     7296
  CLOCKA    ACC     7552
  DESKTOP   INF      507
  INTRAMAN  AUT       20
  RAMBABY   ACC    34193
  SNAPSHOT  ACC     3619
```

```
M:\
59904 bytes used in 1 items.
  ARCS31    ARC    59904
```

SHELL.PRG and the archivers. You'll probably want to keep this folder intact.

Note: If you boot with Disk 1, you won't see any of the *Super Boot* stuff; you'll just go straight to the desktop with the Drive A: window open. The AUTO folder will be missing, and the UTILITY folder will contain only the virus killer. Also, the desktop file on this disk is for color monitors; for monochrome, you'll need to build your own desktop.

Your First ARC Extraction

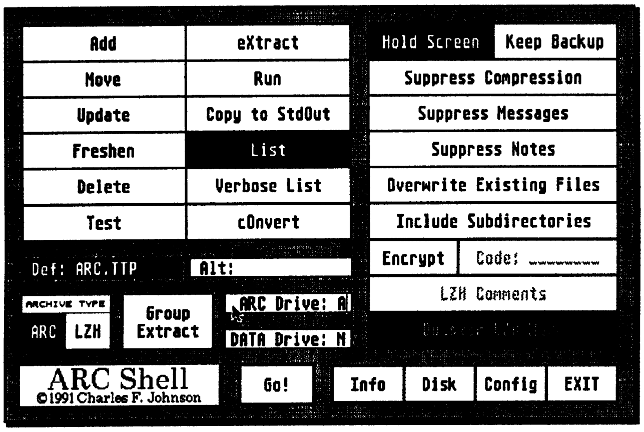
I've set up Disk 2 under the assumption that you're running with at least 1MB of RAM, and the following procedures assume that you have only one floppy drive. Remember that *ARC Shell* is already configured to expect the archiver programs to be right where you see them--in the ARCSHL folder on drive A:.

Let's do a simple extraction. In any use of *ARC Shell*, you must never forget that *ARC Shell* itself, the archiver you're planning to run, the compressed data file, and the ex- panded files will all have to be on-line simultaneously. Once you start an ARC operation, there's no opportunity to swap disks.

We'll begin by opening a window for drive M:, the ramdisk. Insert Disk 3 and copy the file ARCS31.ARC to the M: window. Then replace Disk 2 in the floppy drive. You should see the desktop shown previously.

Now run *ARC Shell* by opening its folder and double-clicking on ARCSHELL.PRG. You'll see the dialog box shown below. This is the main dialog for *ARC Shell*. Click on the [ARC Drive] button near bottom center, and select drive M: as the ARC file drive. Click on [List] button to obtain a listing of what is in the ARC file. Now click on the [Go!] button. Select the ARCS31.ARC file with the file selector. The archiver will run and give you a list of all the file names in that particular file, with their sizes.

When you return to the ARCSHELL dialog, click on the [Extract] button, then click on [Go!] again. You'll get the system file selector twice this time. First time is to specify the ARC file (notice the program remembers the last one you selected). Second time, it's looking for a destination drive/folder.

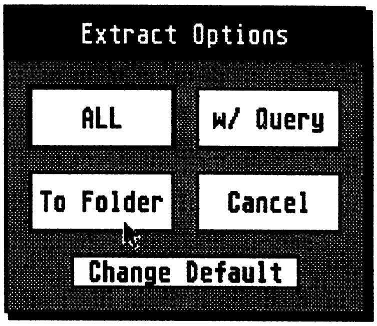


Def: ARC.TTP

Alt:

ARC Drive: A

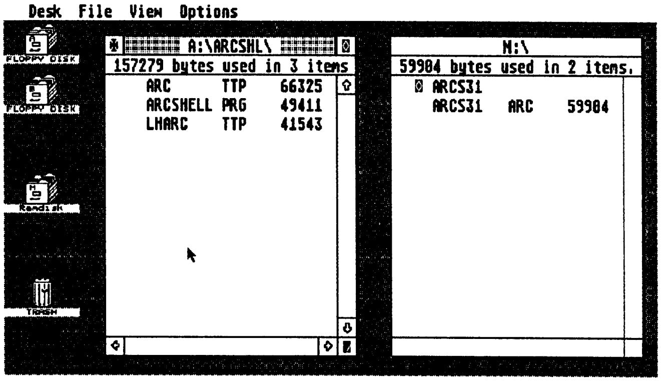
DATA Drive: M



After the second occurrence of the file selector, you'll see a little dialog box for Extract Options (see illustration). Click on the [To Folder] button and relax.

The ARC 6.02 program will run and extract all the files in this archive, creating a new folder, and providing you with a running report on what's happening. When it's done, press a key or click either mouse button to return to the ARCSHELL dialog. At this point, let's exit to the desktop. Your windows should now look like the desktop shown below. Notice that drive M: now has a new folder whose name matches the file name of the compressed file. There should be two files in this folder.

We're done! To save the new folder and its contents, just move the whole thing to a freshly formatted floppy disk.



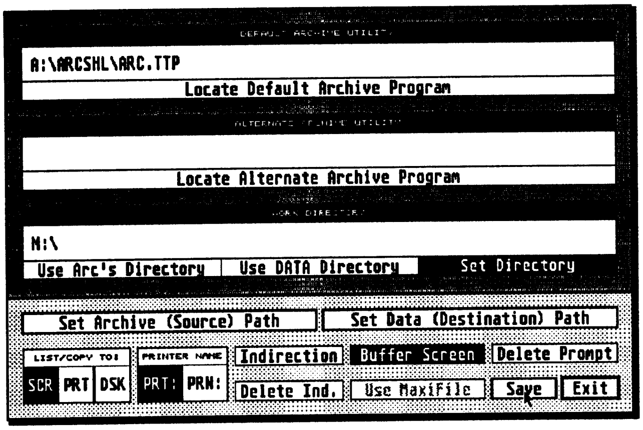
```
A:\ARCSHL\
157279 bytes used in 3 items
ARC        TTP   66325
ARCSHELL   PRG   49411
LHARC      TTP   41543
```

```
N:\
59904 bytes used in 2 items.
ARCS31
ARCS31   ARC   59904
```

Another Method

In our first example, we ran *ARC Shell* and the archiver from the floppy. Another method is to copy the entire ARCSHL folder to the ramdisk. With this method, you can put a compressed file on a floppy by itself and extract to the floppy. Naturally, you must have enough room on the floppy to accommodate both the compressed file and the extracted files.

If you use this approach, you must reconfigure *ARC Shell* to expect the archivers on the ramdisk. Just run *ARC Shell* from its folder on the ramdisk, click on the [Config] button, and set the path for each archiver program (see illustration on next page). You'll need to do this twice. Then save the configuration. This will update the copy of the program on the ramdisk so that subsequent executions will work properly. If you want to modify your system disk to do this all the time, just copy the *ARC Shell* program from ramdisk back to the floppy. Don't forget that you've done that, though.



A:\ARCSHL\ARC.TTP

N:\

Configuring RAMBABY

If you want to adjust the size of the ramdisk, the techniques are different for Disk 1 and Disk 2. On Disk 1, click on the *RAMBABY* accessory at the desktop. Click on the [REMOVE] button to remove the existing ramdisk, and enter the new size you want. Click on the [INSTALL] button and the new ramdisk will be installed. Now click on [SAVE] if you want to save the new configuration on your disk. You'll hear the ditty again, and see a dialog box indicating that the next time you boot, the new size will be installed automatically.

With Disk 2, you have another option. In the drive A: window, rename the file INTRAMAN.AUT, giving it some other name of the form myname.AUX. Now move the file into the folder AUTO\SUPERBT. (With TOS 1.4, hold the [Control] key down when you drag it. With earlier versions of TOS, copy the file into the folder, then delete the copy in the root). The next time you boot from Disk 2, your new configuration file will be added to the *Super Boot* menu.

When You're Out of Room

The principal drawback of using a shell program like this is that working on very large compressed files can become difficult because everything has to be on some combination of ramdisk and floppy at the same time. If you don't have enough RAM to make a really big ramdisk, and don't have a double-sided floppy drive, things can get sticky. You may find that a few files are so big you must abandon the shell program and work with the archiver directly. In the worst case, you can't get there no matter what you do.

In between, you can get clever. For example, it may be possible to extract one file at a time from a big archive, then move it to a separate floppy and extract one more file. You can also use the same technique to add files one at a time to an existing archive. When you're making your own archives, it's probably wise to keep the file sizes down to something that you can conveniently use without a lot of disk swaps.

The remaining three accessories are a small clock, a calendar, and a basic calculator. They're included mostly to allow Disk 2 users to experiment with *Super Boot's* ability to turn things on and off at boot time.

Have At It

It's not possible to give a detailed walkthrough of *ARC Shell* or the archivers in this space. I suggest that before going too far, you extract the documentation files and read them. You'll notice that the options for the LZH package are a little bewildering as they appear in the *ARC Shell* dialog. Be heartened by the knowledge that you probably won't need anywhere near all of them.

There's also insufficient space to provide detailed discussion of *RAMBABY*, *DC Formatter*, *VKILLER*, or *DCOPY*. Read the documentation. One caveat about *DCOPY*--it seems not to be supported any longer, is not fully compatible with ARC 6.02 and can't handle LZH files at all. I've included it mostly because it has an excellent ASCII text file browser in it. Good for perusing documentation files. Its disk duplicator function is also decent, but I'd rather work with windows for file copying and *ARC Shell* for archiving operations.

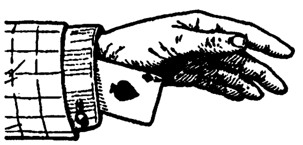
Most of the programs I've included on these disks are shareware; that is, the author would like to receive a check in the mail. I urge you to send those shareware fees for the programs you find useful. We've lost enough developers already, so let's give the programmers that have stuck by the ST some incentive to continue doing so.

Listed below are the complete contents of the three disks that have been added to the CN Library.

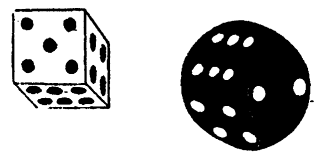
#640. System Disk 1. For 520ST owners, everything you need to ARC and unARC files. CALC, CALEND, and CLOCKA (Some simple accessories). DESKTOP.INF (The desktop file.) RAMBABY.ACC and INTRAMAN.AUT (Ramdisk and configuration file.) VKILLER (Virus Killer program.) ARC.TTP (ARC 6.02 Archiver program.) ARCSHELL (Johnson's ARC Shell) LHARC (Quester's LHArc program 2.01h.)

#641D. System Disk 2. For 1040ST/Mega owners, everything you need to ARC and unARC files plus Super Boot (SB). Contents include everything on CN #640 plus DCFMT32 (DC Formatter and resource files.) DCOPY36 (Disk utility program.) SUPERBT and SUPERBTA (SB) MED_RES.INF, HI_RES.INX (Canned desktop file for SB.) RAM180.AUX, RAM300.AUX, RAM720.AUT (Canned Rambaby configurations.) SUPERBT.STF, SUPER_CS.PRG, SUPER_CS.RSC (SB configuration program and data.)

#642D. System Disk Archives. ARC602.ARC (ARC 6.02 package), ARCS31.ARC (ARC Shell); CALC.LZH (simple calculator), CALEND.LZH (simple calendar), CLOCKA.LZH (simple clock display), DCFORMAT.LZH (DC Formatter), DCOPY36.ARC (DCOPY-minimal docs), LH201H.LZH (LHArc package), RAMBABY.ARC (Ramdisk accessory), SBOTHR.LZH (SB goodies), SBSNDS.LZH (SB sounds and pictures), SPBT70.LZH (Super Boot), and VKILL381.LZH (Virus Killer).

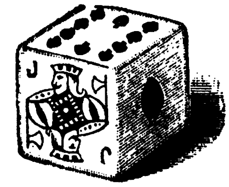


Go Ahead, Make My Play!



Lotteries: Analysis vs Random

by Mike Heininger (c) 1991



Irresistible Appeal

The dawn of Virginia's first million-dollar jackpot state lottery in January 1990 obviously was a golden opportunity for computer insiders to track virgin numerology and convert their superior number-crunching into discovery of statistically significant trends unknown to computer illiterates.

Hunches would be turbocharged into bonanzas. The unknown would become known. Karma would beget cash. Sure. Read no further if your wallet is constricted by this word: random.

VIP Pro and Lotto-File

But if deep down you believe in numerology, in definite trends dimly fathomable to the tenacious, then consider the betting analysis you can do not just with an old standby like VIP Professional, but with an elegant though obscure program called Lotto-File.

In many state lotteries, much of their profit (e.g., 35 percent in Virginia) goes to worthy projects that otherwise might require more tax dollars. That is supposed to mitigate the sting of taxpayer gambling losses since the state show—like state liquor stores— is the only legal game in town. Still, even at only a dollar a chance, the milk money goes fast.

The fact is, most people never will become millionaires—odds of winning are virtually hopeless both in various publisher sweepstakes and in state lotteries. The fable is, the best chance to become a millionaire is by betting the weekly or semiweekly state lottery. The bait is, no matter how many lotteries you lose, the only lottery that counts is the next one.

For example, in the first year of Virginia Lotto, the winner of the biggest jackpot ($22.2 million) had been striking out for 15 years playing lotteries in Maryland, Pennsylvania, and West Virginia. He had been buying 20 $1 tickets a week before he won. That is a serious habit; borderline, if not outright addiction.

Computer Randomizer Wins

More enticingly, another big winner ($10.9 million) used his own computer randomizing program to choose his numbers. Aha! Just what I planned on doing first with VIP Professional, and now with Lotto-File. Fifty-eight weekly, and later semi-weekly, six-number sets were drawn in the first year of the Virginia Lottery's million-dollar game; fewer than half resulted in jackpots won by players. Many players bet some favorite numerical combination like family birthdays; some let the computer choose numbers under Easy Pick, and others simply picked whatever number because it's all purely random anyway.

Because Lotto is random, the choice ultimately becomes whichever method makes us feel better about gambling our money. Random logic aside, deep down we just know that anything is better than only guessing. That means analyzing those 58 Lotto numbers drawn has to give an edge, right?

More Than Sorcerer's Apprentices

Not necessarily. Compiling the numbers is one thing. Making sense of them is something else. And projecting them into a future jackpot is an art for more than sorcerer's apprentices.

Even at odds of 7.1 million to 1, who can resist occasionally trying to convert a dollar bill into a jackpot that exceeds $3 million dollars nearly every week? Certainly not me: using my venerable VIP Professional spreadsheet program to crudely analyze numbers, I invested $159 in Virginia Lotto during 1990. At about $3 a week, that's more than some people would risk, but much less than many did. And what did it get me?

Would you believe two free chances, a sense of nontaxual contribution to the great state of Virginia, and five pages of what randomologists call useless data but which most numerologists peruse and say "Hmmnnnn."

Lousy Luck, Good Cause

Yes, only twice did I win even the lowest prize by picking 3 of 6 numbers for a free $1 Lotto ticket. But the loss is less painful considering that something like a third of my gambling went to state projects (the other two-thirds to winners and overhead). There also is the high from not just picking numbers out of thin air, but attempting to reason the unreasonable. So what if Lotto seems unpredictable? Just because I am slow in converting analysis to victory doesn't mean you can't do better. Many winners have tiptoed into numerology by using birthdays, anniversaries, and other numbers special to them. For example, if you and your spouse have 1 child, were married on the 15th, met in the 16th state

(Tennessee), have a last name beginning with the 25th letter (Y), and you are now 30 and 33, playing this Lotto number Dec. 15 would have won $3.1 million.

26 Ways to Numb Your Number

Although the alphabet has only 26 of the potential 44 Lotto numbers, it's still fertile ground for numerologists. For example, if your name is Sharon and on Dec. 26 you played your name's numerical counterpart (19-8-1-18-15-14), you would have hit 3 of 6 for a free play. Names with fewer than six letters can be combined with middle or last names or initials.

What about playing the most popular numbers? Now you're getting into analysis. If you did that on the first anniversary of Virginia Lotto, you would have played either of these possibilities:

1 - 6 - 16 - 25 - 31 - 43 or 1 - 6 - 16 - 27 - 31 - 43.

Neither would have won a thing.

How about playing the average interval? Well, 6 - 14 - 18 - 24 - 30 - 38 almost would have earned a free play May 26 (3 - 16 - 18 - 24 - 37 - 39). Of course, looking back gains nothing except the illusionary chance of narrowing the odds for future winners. Unless you did win, the only number that counts is the next one, particularly as totals, averages, and intervals change every drawing.

Randomologists Shrug

Randomologists shrug at such exercises. Indeed, the pure randomologist is quite content to use the laziest way to win: letting the computer select the winning Lotto number for some lucky player using the Easy Pick option. Anybody who has a system beyond these obvious alternatives isn't talking. But here for your potential profit is my *VIP Professional* system and a quick look at the much more elegant *Lotto-File.* Just because neither has worked yet doesn't mean next week won't be glorious. Today's strike-out can be tomorrow's home run. Ignore these systems at your profit peril.

Masterpiece of Enticement

First, one more background frolic. With its marvelous statistical cunning, Virginia Lotto, like most state lotteries, is a masterpiece of enticement. The jackpot often goes unwon for several weeks but every week a couple hundred people correctly pick 5 of 6 numbers to win around a thousand bucks, several thousand people successfully select 4 of 6 numbers to win around $50, and thousands more hit 3 of 6 numbers to earn a free chance. Payoffs vary because Lotto is pari-mutuel, meaning sales determine the jackpot.

Lotto was weekly from its debut Jan. 27 to Oct. 31, then added a 7:58 p.m. Wednesday drawing to the usual 10:58 p.m. Saturday drawing. The first jackpot won, a mere $7,080,969.02 on February 24, eventually would become the year's 8th largest won.

Virginia Lotto jackpots pale before the nation's largest: in September 1990 the Florida lottery paid more than $100 million, but that still was only second-best to the record $115 million paid by the Pennsylvania lottery in April 1989.

Ultimate Meaninglessness

The Virginia Lotto winning six numbers from 1 to 44 are announced randomly and then arranged in ascending order. For some players, this suggests a secondary analysis column by column—an exercise probably meaningless except in clarifying current number distribution to aid future guesses. I used my computer spreadsheet (*VIP Professional*) to analyze Lotto numbers this way: winning numbers, sum, average, winning intervals, number selections by the six columns, numbers not used by columns, and total times each number used. Here are my best estimates for what happened the first year:

First Year Best Estimates

o *Winning Numbers.* Of Lotto's 58 six-number winning combinations, two of every three (39) repeated at least one number from the previous week; the most repeats, four, came Aug. 18. But the closest to a repeat winner was June 16 when 2 - 4 - 6 - 8 - 9 - 34 was only one number less in every column except one to June 9's 3 - 4 - 7 - 9 - 10 - 35—the one exception being the identical 4.

o *Sum.* The average total of the six-number Lotto combinations was 129 (6 - 14 - 18 - 24 - 30 - 37). Half (median) of the winning numbers averaged 132 and above. But never during the year did any winning number total the current average six-number combination, and only rarely did one come close even to the average total. For example, the closest total to 129 is 130 which came December 1 (4 - 19 - 20 - 23 - 25 - 29). Highest sum was 199 (13 - 33 - 36 - 37 - 39 - 41, July 28). Lowest sum was 58 (2 - 4 - 6 - 13 - 15 - 18, September 29).

Most Useless Statistic?

Average. The average number was 22, which might be expected, since it's half of the 1-44 possibilities. As the sole statistic even more useless than sum, this guarantees a best-seller to anyone figuring out how to profit from it.

Winning Intervals. In the 58 Lotto numbers drawn in 1990 were 102 instances of numbers only one or two digits apart, which might be the most significant insight into winning numbers. Intervals within Lotto numbers averaged 6 - 7 - 4 - 6 - 6 - 7. But actual intervals varied considerably, for example, the number 5 - 32 - 36 - 37 - 40 - 42 drawn March 31 had intervals 5 - 27 - 4 - 1 - 3 - 2.

Times Each Number Used. The most successful Lotto number was 25, appearing 15 times. Next were 9

(14 times), 43 (13), 6 and 18 (12), 15 and 27 (11). The least successful Lotto numbers were 22, 30, and 44, appearing only three times. The rest were 16, 33, 37, 39 (10 times); 1, 2, 4, 20, 21, 31, 34 (9); 8, 13, 19, 23, 28 (8); 5, 11, 24, 26, 40 (7); 7, 10, 14, 17, 35, 36, 38, 41, 42 (6); 3, 12, 32 (5); and 29 (4).

So with all this information, now you can spot the undiscovered mystery trends. Sure. Read my lips: random. Playing two or three six-number $1 tickets each drawing, I usually managed to correctly pick 1 to 3 numbers in my 12 to 18 chances. My best percentage was 4 of 12 December 1, but without at least three correct numbers on one ticket, multiticket scoring is good only for consolation motivation.

Then there is always Easy Pick—having the Lotto computer pick your number for you. This sounds bizarre, but at least one jackpot has been won this way. And (sigh) ... of the only two 3 of 6 picks I've had, one of those free tickets was earned by the computer. (No, nothing fishy here–numbers are drawn from balls blown about in a transparent, sealed container.)

Encouraging Odds?

So what is gained by analyzing these 58 number sets drawn in the first year of Virginia Lotto? Why it's obvious: now the odds of winning Lotto in 1991 are reduced from 7.1 million to 1 to something like only 7,099,942 to 1. How can anyone not find that encouraging?

For better perspective, think how many times you have had a royal flush in poker. Can't remember any at all? The odds of drawing that highest hand were a mere 649,739 to 1. Winning the Virginia Lotto jackpot is only nine times more difficult.

Wait a minute, you say, what about *Lotto-File*?

Well, my problem is burnout. After analyzing all that stuff with *VIP Professional*, by the time I found the small *Lotto-File* ad in *ST Informer* I was not much interested in creating another Lotto database. But ... for only $21.95 I figured I really should scout the program and see what it did that I didn't.

Elegant *Lotto-File*

So I bought it. How I wish I had *Lotto-File* from the Virginia Lotto beginning! *Lotto-File* is an elegant, well-mannered lottery database that every numerologist should lust for.

Providing past performance, trends, statistical and graphic charts, *Lotto-File* is a GEM-based treat requiring at least 26 past sets of drawn numbers entered into the database before any trends should be expected. Past numbers should be available from your state lottery office.

Lotto-File can conveniently store and statistically analyze numbers from any 1/1 through 7/65 lottery. Virginia Lotto, for example, is a 6/44 because six numbers are drawn from 1 through 44.

Not copy protected, *Lotto-File* recommends that program and data be kept on the same drive, which is very easy, even for hard disks, via the default menu for designating drives. Don't you wish all your favorite programs were this friendly and efficient?

Lotto-File's default game is the California 6/49 game. If you are anxious, you can copy these files to play with the program before creating your own state lottery data base. This, too, is easy, thanks to GEM.

Although *Lotto-File* is fairly self-explanatory, you'll soon be wondering exactly what all the fancy statistical terms mean. To find out, print the document file, which comes to about 15 pages of compressed type.

Statistician, Check Thyself

Time out for a mathematical caution: *be careful* entering winning numbers! Your stats are only as good as your keyboard accuracy. Because *Lotto-File* has no discernible cross-checking, any errors will not be obvious. In my crude *VIP Professional* lotto spreadsheet I built in a couple of cross checks, and found several instances where I goofed entering numbers.

OK, finally let's take a quick look at *Lotto-File* and drool at the possibilities. First thing you'll do is add/edit winners. Later you add/edit play slip to have *Lotto-File* check your entries against the winners you type in.

After you finish adding winners, be sure to first save them to disk, then click on re-calculate when you get into any of the following analyses: performance chart, trends chart, interval/stats chart, cross reference chart, number cross reference, database analysis, number pairing, random number generator, and number wheeler. If you don't re-calculate, your latest data won't be considered.

See how crude my *VIP Pro* lotto spreadsheet was? In a minute, we'll see if *Lotto-File* is any better at picking winners. *Lotto-File* analysis can be a curious mixture of simple and complex, so here is only a brief idea of what these analyses do:

1. *Performance Chart.* Shows number of games and number of times each of the 44 numbers (in Virginia example) were selected. Also hot/cold number percentages, number of sets totalling odd, and number of sets totalling even.
2. *Trends Chart.* Across the top is shown the most recently drawn number set. Beneath it in columns are hottest to coldest numbers in relation to each of the six numbers. Across the bottom are total times each of the top numbers have been drawn. Includes a bar-line sum deviation chart (e.g., 68 percent of games are within sum deviation).
3. *Interval/Stats Chart.* Shows games in which each number drawn and interval between picks. Also shows average interval and last time number drawn.

4. Cross Reference Chart. Shows what numbers are being drawn with any given number. Use horizontally or vertically. Shows total times each number drawn, and last game in which number was selected.

5. Number Cross Reference. Select one number (for example, 4) and see every game in which this number was drawn, in sequence.

6. Database Analysis. Shows numbers hot or cold in top 10, 20, or 30 numbers; combined percentage top 10, 20, or 30 numbers; previous 5, 10, or 15 games; within median interval; within average interval; within standard deviation (average difference between actual sum of each set and the sum average); and previous game. This can take Lotto-File awhile to do.

To find numbers in each category, click on appropriate box a + (plus) for common numbers or a - (minus) for uncommon numbers. Can do all sorts of combinations, tricky since most numbers drawn are combinations of common (hot) or uncommon (cold) numbers.

7. Number Pairing. Number of times a number has been picked, and last date drawn.

8. Random Number Generator. This and the database analysis are the most fertile number-picking hunting grounds. Define parameters and then click random to do 1 to 924 sets of numbers. For example, you can exclude last drawn number, specify no past wins, exclude up to 30 numbers, include up to six numbers, and limit sum deviation to plus or minus.

This feature then shows sum average and standard deviation. You can change weight by emphasizing odd, even, or equal numbers.

9. Number Wheeler. Create all possible sets of numbers using up to 12 numbers selected by the user. Provides current average, standard deviation, new sets (for example, entering 5 will wheel only number sets whose totals are within five of current average). Weight can be odd, even, equal, or none. Six choices of distribution. Rather complicated.

The Bottom Line

And now the bottom line—how effective is *Lotto-File* in predicting winners? Being burned out with lottery playing, I still managed to test *Lotto-File* with a few sporadic plays. After generating all sorts of sets longer or shorter than six numbers, I finally coaxed the random generator into one six-number set which I played. It went 0 for 6.

I also coaxed 11 combinations from the number wheeler, selecting three to play in Lotto. I went 1 for 6 in two numbers, 0 for 6 in the other. Of the eight I did not play, one went 2 for 6, four went 1 for 6, and three went 0 for 6.

That's about the same as I did with my crude *VIP Pro* lottery spreadsheet. But *Lotto-File* obviously has much more potential. So I tested it again. Withholding the most recently drawn number, I asked *Lotto-File* to predict it (what a dirty trick, huh?).

Dead Ends, Then Potential

Scouring all nine major analysis areas for the winning number (4 - 5 - 10 - 12 - 14 - 31) or traces of it, I found several dead ends but one area with real potential. I didn't find much of value in the first four charts or the number cross reference (not too surprising since these are essentially raw data).

But in the database analysis I frolicked at length, first looking at common (hot, i.e., frequently drawn) numbers before realizing that uncommon might be more likely for future prediction. Then the brutal truth loomed: drawn numbers nearly always combine hot, cold, and neutral numbers. Yep, Random rides again!

Again the number sets wanted to comprise anything but six numbers. I clicked on this combination and that combination and then a combination combination to finally produce a six-number set: 11 - 12 - 20 - 24 - 38 - 42. Only the 12 was included in the current winner. Again the 1 of 6 score—something to show, but not tantalizing.

Bingo! 3 of 6—Free Play

Then I reached the random number generator. I asked it to generate one number. Out came 4 - 10 - 18 - 27 - 31 - 39—3 of the 6 numbers actually drawn: good for a free play, value $1, equaling in one shot a year's worth of effort by me in my handmade lottery spreadsheet system!

To make sure this was no fluke, I asked *Lotto-File* to generate three more six-number sets. Two were 1 of 6, one was 0 of 6. Oh, oh. I asked for one more set; it was 0 for 6.

And that's where I leave lotteries for now. I confess that in my *VIP Pro system*, often the numbers boggled me and I resorted simply to birthday or anniversary number sets. After only a year of lottery analysis, it was obvious that without a brawny number crunching program I soon would be overwhelmed by too many numbers to comprehend.

Lotto-File fills the need admirably. As a mathematical idiot, my opinion of a numerical analysis program is of little value except for the lowest common denominator endorsement: if I can understand and enjoy *Lotto-File*, just about anyone can.

Only Next Play Counts

Of course I could be a sucker too, unable to comprehend subtleties that would alarm number connoisseurs. But that's the best thing about any gambling—if you know when to say no and not get in over your head, the only play that counts is the next one, especially when a huge jackpot could change your life.

I've beaten the lottery compulsion—no longer do I feel I have to play three chances every drawing. Now I buy a couple chances only occasionally. And when I do, you can bet I use *Lotto-File*.

Actually, *Lotto-File* may be trying to tell us something. The desktop display background color is its usual green when we leave it to enter *Lotto-File*. When we exit, no matter what numbers we conjure, the desktop display turns red. Furthermore, it stays red until we reboot. Hmnnn.

Priceless Analysis-Hasn't Paid Anything

Truly, the information assembled in this analysis is priceless—it hasn't paid a thing. And to avert additional negative cash flow, I hereby disavow responsibility for anything unsettling you do with it anyway. However, if you do succeed in reasoning the unreasonable from this hitherto unprofitable insight, well ... you will remember your pal here, won't you!

Portions of this article appeared in the Prince William Journal newspaper Feb. 20-21, 1991, P. A14. VIP Professional apparently no longer is in business. Lotto-File is available for $21.95 from Softshop, 255 West Benedict Unit E, San Bernardino, CA 92402. Requires one disk drive. Printer (Epson or compatible) optional. Not copy protected. Should run on any drive, including hard disk.

* * *

PageStream's Ace Helper

Reviewed by Bob Ledbetter

Handier than a pocket on a shirt. In a nutshell, that's *PageAssistant* for *PageStream 2.1.*

Being an avid reader I don't mind sitting down and reading the manual for a new program. Although, when it comes to finding specific answers to specific problems, I find myself frantically thumbing through the book muttering unprintables about the manual writer not putting things where they should be. Then my wife asks, "Did you try the index?"

"Index?" I ask. "Me? Try the index? How utterly logical! Of course I haven't tried the index! I know I've seen it in here somewhere. Besides, where would I look?"

"Just a suggestion," she replies.

However, all that is past. Now my wife walks by and says, "Ah, using PageAssistant again, are we?"

"You bet," I reply. "It certainly beats the book."

"Sure does," she says, "certainly beats wearing out the book, too. But how do you know where to look?"

"I just click on 'PageAssistant' in the DESK Menu. That brings up the PageAssistant online window, then I click on the 'Pop-up Menus' box, and that brings down a list of all the PageStream menu selections. I click on the one I want and that takes me to another list; I click on the item I want, and I get detailed instructions right there on the screen. It's neat!" I exclaim.

"I can see," she says. "Who's bright idea was that?"

"A guy named Derrick Hall," I tell her. "Did I tell you I had a nice talk with him the other day?"

"You didn't have to," she continues, "I saw the phone bill."

"OH," I squirm. "UH...right. Um, I was going to tell you 'bout that. UH...anyway, when I first got the program I couldn't get it to work properly. So I called Spar Systems(381 Autumn Ave., Brooklyn, NY 11208; (718) 235- 3169) and Derrick answered. I told him my problems and he asked what resolution I was in. I told him I hadn't resolved anything, but I'm using medium res. 'Ah ha,' he reasoned out loud, 'that's your problem. It was written to work in high res. I'll send you a medium res program'."

"So," wife says, "that's what you got in the mail yesterday, huh?"

"Yeah. Good service. Good program, too."

"I can tell," she continued. "Now, can I have the computer?"

"YOU want the computer?," I asked, amazed. "I thought you didn't like this 'thing'."

"OH," she weasels, "UM, yeah ... ah ... I don't, I mean, uh ... I've got grades to put in EZ-Grade, a test to write in EZ-Test Writer, and I need to write a letter to my mother. You about finished?"

So, folks, if you have *PageStream 2.1* and are tired of rubbing the ink off the pages of the manual trying to find something, get *PageAssistant.* Not only is the program a pleasure to use, you'll get some great DTP ideas in its manual. Now, if Soft-Logic will only get their macros working better...

* * *

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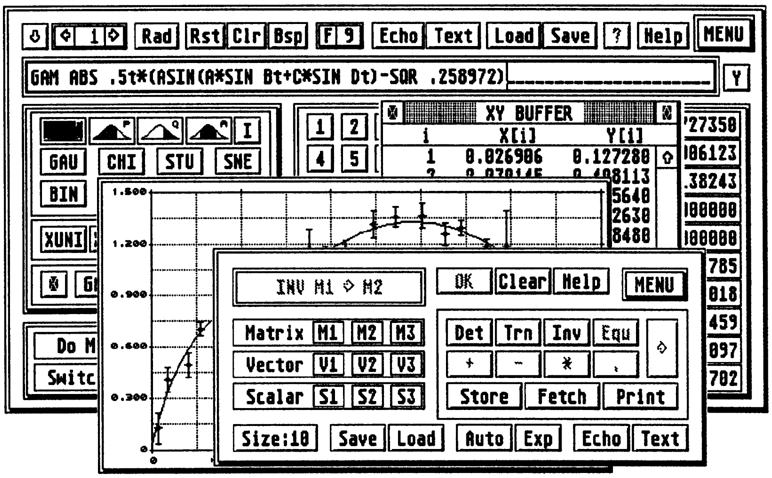

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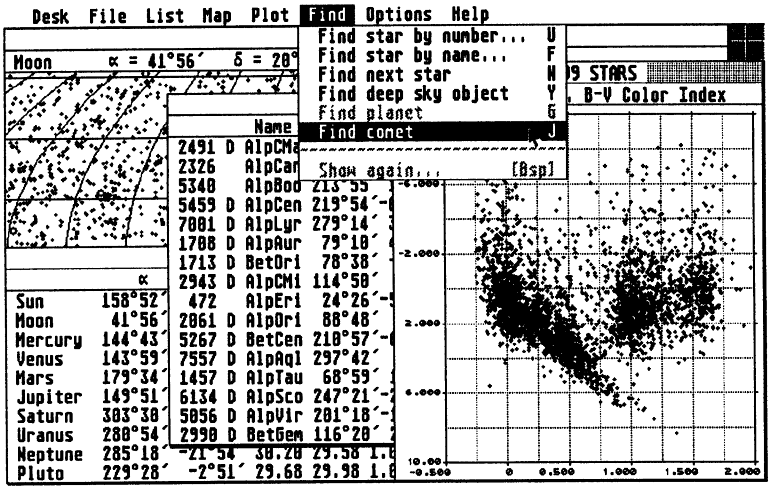

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ST TOOLBOX

The Hewlett-Packard Palmtop Wonder

Smaller and Better Than Portfolio?

by J. Andrzej Wrotniak

I hope our readers will not be disappointed with today's departure from the Atari ST field--after all, we are into the STs not because they carry the magic Atari logo, but because we are computer enthusiasts and gadget addicts, and because the ST fits our high-tech taste. So does the Hewlett-Packard 95LX palmtop computer.

The Time of Portfolio

When Atari released the Portfolio two years ago, it was a very exciting product. (See CN of October, 1989 and April, 1990.) A real computer you could carry with you anywhere, something on the cutting edge of technology. Even for those of us who did not have use for a palmtop, its release was good news, helping to keep Atari afloat, and reducing the chances of the ST becoming one more orphan machine.

Time passed, and the cutting edge lost its shine, then became, let us admit, quite dull. The original Portfolio was not followed with a newer model, one with a bigger display, more memory, or better built-in software. Maybe the reason was that this was not a product of Atari's own in-house development, or maybe it had something to do with the company's usual way of doing business—in any case, the Portfolio was just sitting there, selling nicely but waiting for some other palmtop to come and blow it off the market.

Well, it did not have to wait long. A few months ago Hewlett-Packard released the HP95LX, and we can only imagine what this machine will do to Portfolio sales.

A Personal Note

A confession: I have always been a freak of pocket computers. When the good old TI-59 (you could call it a computer, as the same memory locations could be used to hold either data or instructions) arrived, I just had to salivate in frustration: its price was equivalent to a couple of years of my salary in Poland.

Then, back in 1981, on a trip to the U.S., I saved enough ($200) to buy a Radio Shack PC-1 (really a Sharp PC-1211), with a one-line LCD display, built-in BASIC, and 1,400 bytes (not kilobytes!) of RAM.

Boy, I've had more fun with that machine than with any other, before or since. In addition to a library of numeric programs for it (some algorithms are still alive and kicking in *El_Cal*), I wrote some games, including poker, horse races, lunar lander, a Master Mind, and one called "Soviet Tanks, No Thanks."

Then came the Communist military coup, and in the following paranoia some idiot decided to lock my department's mainframe computer (the line printer could be used to produce underground leaflets real fast).

The illegal literature was still printed somewhere else (sometimes distributed with the help of the local police, many of whom were decent people after all), but suddenly my pocket machine became the only working computer around!

One of my students, whose master's thesis was due shortly, rewrote her software into a dozen or so small BASIC programs and did all her numerical work on the PC-1, spending countless winter hours at the coffee table in my office. Sometimes she would even bring in a cake (baked with her rationed sugar and flour), and I would provide some brandy to go with the feast. (Our university was quite easy-going and informal during those days of martial law, and breaking official rules was quite patriotic and hip—within some limits, of course.)

This does not have much to do with the HP95LX, but I am writing these words 10km above the Rockies lighted by the last rays of the setting sun, and it is difficult not to get mellow under these circumstances, especially after all the brandy used by the friendly TWA stewardess, very intent on checking how much of this stuff a Slav can handle. Go ahead, make my day!

I am typing this on the HP95LX, of course; being able to carry it anywhere in my pocket is a thing I have already learned to appreciate.

Waiting for a Cheaper, or Better, Portfolio

The PC-1 had me hooked on pocket machines. After having upgraded to the Sharp PC-1350 (with 11k of RAM and a 4-line display) a few years ago, I was really ready for the Portfolio when it was announced. True, it ran under the PC-DOS (or its near equivalent), but DOS is an adequate entry-level operating system—for a palmtop computer, that is.

The only thing about the Portfolio was that it was a little too small in terms of display size (8 lines) and memory (128k of RAM), and a little too expensive for someone permanently broke. Therefore, I decided to wait until the price dropped down and/or a more powerful model appeared on the market.

The latter option, unfortunately, never materialized. On the other hand, the street price recently reached just $200 (the basic unit), something I would consider reasonable.

And then the people from Hewlett-Packard wrecked it all, releasing, with no advance announcements, no wooden mock-ups at computer shows, no FCC certification delays, no nothing, the HP95LX, a leaner, meaner palmtop, with a good chance of beating the Portfolio into the dust of oblivion. My wait was over.

The 95LX: A First Look

The 95LX carries a MRP of $700; I found one at the BEST department store for $500. This gets you the basic unit and a thick, quite well-written user manual, which you may safely ignore most of the time (unless you want to use the built-in *Lotus 1-2-3*).

The computer is designed as a sturdy case with the hinged lid containing the LCD screen, very much like the Portfolio. It is, however, smaller, 160x85x25 mm, nicely fitting into a mid-size shirt pocket (just don't bend over), and the LCD screen occupies a significantly larger part of the lid than Atari's.

The keyboard is, obviously, smaller than Portfolio's (the latter also has a better feel). If you insist on touch-typing, just forget the HP95LX, get a notebook computer and lug it around.

Hewlett-Packard is known for quality, and it shows. The finish and feel of their palmtop leaves nothing to be desired, except maybe for the rather flimsy transparent red cover, protecting the backup battery compartment and the infrared output port.

The manufacturer claims that while the computer has been designed to withstand a three-foot drop onto a vinyl-covered concrete floor, they have run some tests from six feet, and tried to address weak points showing in that case. I wasn't really eager to run any independent tests in this matter.

The liquid crystal display, 115x48 mm, is not backlighted (to save power), but the software-adjustable contrast is quite good. The character display has 16 rows (as opposed to Portfolio's 8, a huge difference!) by 40 columns and, in a manner similar to Portfolio's, can be used as a scrolling window into a logical 25x80 display.

The AA Power

The power is supplied by two AA batteries or from an external 9V source. The CPU slows down to zero when possible (e.g. between the keystrokes, while you type), so the batteries last quite a while—it took me a month of intensive use to go through two sets. Programs depending on the CPU more heavily (as, for example, many games) will drain the batteries much faster, and so will the applications using the built-in serial port.

You can also switch the 95LX off at any moment without saving your work; after switching it on you will be able to pick up where you left. Neat.

A separate button-shaped lithium battery is used to protect the memory contents when the main batteries are being changed. An audible and visible warning is issued when either of those two power sources need replacement.

Memory—Quite a Lot of It

The computer comes with 512k of RAM, which can be divided between the DOS-accessible RAM and a RAMdisk. The default allocation is about 50/50, and it can be changed from the built-in software without damaging the RAMdisk data.

There is also a plug-in port for one additional RAM card, ranging from 512k to 2 megabytes in size. The most common industry standard is used, so that you may choose between various brands. I've got a 512k card from ACE Technologies in California ($260 with shipping), and it works just fine pretending to be a disk drive.

The DOS itself uses very little RAM, running from the read-only memory. The ROM also houses other built-in applications, totalling one MB of space.

Two Computers in One

The HP95LX is, very much like the Portfolio, two computers in one. On the one hand, it is a real DOS machine, running under Microsoft DOS 3.22, and quite compatible with the existing DOS software. On the other hand, it comes with a selection of built-in productivity and utility programs, which can be accessed with a single keystroke and easily switched among (without termination).

The Filer

First of all, there is a File Manager, or Filer, not unlike the shell included with DOS 5.0. It allows for the basic file operations (delete, copy, rename etc).

The Filer can also work in a split-window mode. This mode can be used for a convenient transfer of files between the 95LX and another PC-DOS computer. (More about that will follow later.)

Lotus 1-2-3—Overkill?

The biggest piece, by far, of the built-in software is the *1-2-3* spreadsheet from Lotus. Not being a spreadsheet expert, I am not the right person to write about this program. According to Lotus' claims, this is a full-featured version, with just one or two commands missing, and capable of handling spreadsheets of up to 8192 rows by 256 columns.

Some *1-2-3* templates come enclosed in the ROM, and everything seems to work OK—for example, I was able to confirm my inability to buy a house and pay the mortgage.

One may get the impression that the whole computer is built around *Lotus 1-2-3*. For example, the function keys are permanently marked with *1-2-3* operations and the operating system uses the Lotus character set in the upper ASCII region (instead of the regular PC character set). Even half of the manual is devoted to *1-2-3*, while some of the HP-specific features of the DOS implementation are documented on a very rudimentary level, if at all.

There would be nothing wrong with having a full-featured version of *1-2-3* built in, were it not at the obvious expense of the other built-in software. As compared to *1-2-3*, the other programs are quite simple, and some are just missing. For example, a decent built-in BASIC interpreter would be very, very handy.

Frankly speaking, I would prefer to have *1-2-3* available separately, on a plug-in ROM (or RAM/ROM) card. Then I would buy this card if I needed it. It looks like the H-P designers know better what is good for me (and what I should be paying for).

The So-So Text Editor

The built-in text editor (called *Memo Writer*, as if to reduce our expectations) is quite rudimentary. It has auto-wrap (obviously, with a 40-column display it should), but it is strangely missing some other features, most notably "Find Next" and "Find and Replace." Only a plain "Find" is available.

Out of the 16 display lines, the editor uses one to show the current date and time, and another one to display the current file name and cursor position (irrelevant with the auto-wrap). To add insult to injury, a third line is taken by a ruler with tab positions, and two more, at the bottom, by descriptions of the function keys. This way, the 16-line display has been reduced to just 11 lines, which makes any text editing much more cumbersome than it should be.

Another annoying feature is that the file selection template defaults always to C:\_DAT*.TXT, not to the last template used in the current session. This is inconvenient when you are editing a series of files with extensions other than .TXT, or located in a different directory. One may get the impression that the editor's designer never really used it.

Anyway, the *Memo Writer* is barely adequate. I would expect something more from a company like H-P. Luckily, some of the editors available in the DOS world can be configured to the small screen, and I am quite happy with the VDE word processor, in spite of having to sacrifice disk space, instant switchability to and from the built-in applications, the common clipboard and what else. Tough luck.

Addresses and Appointments

The address book can switch between various data files for various occasions. Each database size is limited to 64k which should be enough for most of us, and I found the program quite capable and easy to use.

The built-in appointment book has a calendar and a things-to-do scheduler. It may seem OK to the average PC-DOS user (no offense, some of my best friends...), but not exciting, either.

A Disappointing Calculator

Another built-in application is a calculator, with both business and scientific functions. To save you the details, let me describe it in just two words: it stinks--especially, but not only, the "scientific" part. (And this from a company who wrote a book on calculators; shame on you, H-P!)

Terminal and Setup

The HP95LX does not have an internal modem (this would be too much to ask for), but one of the built-in programs is a simple terminal emulator with the Kermit and XModem transfer protocols. Nothing really big, but it works just fine. I was able, without any problems, to transfer files at 19,200 baud to and from my ST (using *Interlink* and *STalker* on the other side). I also experienced no problems logging into the CompuServe at 2400 baud (the cable, mentioned above, comes in handy here).

Switching between the built-in applications is possible with a single keystroke, and there is no need to save data files. You have, however, to close all built-in programs to exit to DOS or to use the Setup utility (which allows, among others, to adjust display contrast, beep tone and some display formats, to change the RAMdisk size, and to install any user-defined start-up .PCX picture (two are enclosed in the ROM).

PC-DOS in Your Pocket

The built-in applications constitute one aspect of the HP95LX, from which it does not differ much from pocket organizers like Sharp Wizard or Casio Boss series. (Last moment update: the Series 3 Psion should do to Wizard and BOSS what the 95LX does to Portfolio.)

The 95LX is, however, also a PC-DOS computer, capable of running well-behaved DOS applications out of the box--as long as they use text display only, and fit into the memory (the most you can assign to DOS RAM is about 400k). I was able to use without any problems quite a few PC programs on the 95LX, including some text editors and small word processors, my old physics stuff, and the newest *Turbo Pascal 6.0* compiler (in the command line mode). Other users reported success with various C compilers, and there is even a small patch for the *Turbo Pascal 3.0*, adjusting its full screen shell and editor to fit the HP's display.

I have tried some PC-DOS utilities on the HP, also with success. In particular, the memory-resident Toddy command line editor makes DOS almost a civilized interface (as far as command line environments go). The Norton Index clocks the HP palmtop at 2.5--

this is more than twice the speed of a 4.77 MHz PC/XT, and faster than some mainframes many of us may still remember.

Connectivity

Because of size limitations the HP95LX (like the Atari Portfolio) does not have any external storage built in (just wait a few more years!). True, the plug-in RAM cards have their own batteries protecting the data so that they can be changed on the fly, but floppy disks for $250 a pop seem a little steep.

Two ports are built in: a standard serial RS-232 and a proprietary infrared (output). At this time there are no devices available for the infrared port (except a simple printer, I believe), but the RS-232 is just what the doctor ordered (as long as you have the special cable). This port can be used for connecting the 95 LX to another computer in three different ways.

The first way is to use the built-in terminal emulator. I was able to transfer both ASCII and binary files to and from my ST without any trouble, using (on the ST side) the XModem protocol built into *Interlink* and *STalker.* At 19,200 baud it is quite fast.

The second way is even nicer, if you have a PC-DOS machine. To use this method you must have the HP Connectivity Pack. It comes with a program emulating the 95HP on your PC (virtually all built-in applications except *1-2-3*). Run the File Manager on both computers, and then on either of them press the Remote key. Its Filer will now allow you to access all disk drives of both machines. Nice and simple.

In the third method (also requiring the Connectivity Pack), one computer is used as a file server. This means that you may access (for example, edit) on the HP a file residing on your desktop PC's disk drive and vice versa. I haven't used this method yet, as the other ones have been quite sufficient for my needs.

Does It Work with an ST?

Even if you do not have a PC-DOS machine, you do not have tobe limited to the first method. I experienced no problems running the connectivity software on my ST under *PC-Ditto 1.*

The latter, almost forgotten already, is an amazing piece of software. I was able to run under it all 12 or so PC programs I tried, including *Turbo Pascal 6,* and some memory-resident utilities (TSRs), *Toddy* in this number. Yes, it is quite slow, but for some purposes we do not really need speed (for example, for backing up HP95LX files). If you need the PC-compatibility occasionally, and if speed is not an issue, buy a copy while they last!

The HP Palmtop Versus Atari Portfolio

If you postpone buying a computer waiting for a newer and more powerful model, you may end up waiting forever. The technology is moving fast. I have no doubt that within a year or two the H-P, or someone else, will come with a new and better palmtop.

The Portfolio was the first palmtop on the market, and it is a nice small machine. Its time, however, is nearing an end, and it seems like Atari does not have a higher-level successor to it.

Feature by feature, the HP95LX is a better machine from any angle. It is smaller, yet with a bigger screen, showing twice as many lines. Its built-in memory is four times the size of Portfolio's, and easily expandable with standard RAM cards. Last but not least, the HP runs under a real DOS, not just a DOS look-alike, and this means a much higher degree of software compatibility.

The Portfolio has a somewhat bigger and (arguably) better keyboard, and a lower base price.

Which One Is Cheaper?

Yes, I know that $500 is more than $200 (the best base prices of both machines I have yet seen), but these two numbers do not tell the whole story. The Portfolio comes with just 128k of RAM (part of which is used as a RAMdisk, like in the 95LX). This is really not much, even for running the built-in applications. The best upgrade price to 512k (just recently announced) is $300. Thus, the street prices of both machines equipped with 512k of memory are equal. This will make a convenient starting point for any other comparisons.

The (Almost) Obvious Choice

If you are thinking about buying a pocket machine, the HP95LX seems to be, currently at least, the best choice, with the most power, expandability (hardware and software), and programmability.

The best, but not the only one: if you are planning to use mostly the built-in software, then the Atari Portfolio may be, for just $200, a viable alternative--better (at least from where I stand) than the so-called pocket organizers, like the Sharp Wizard and Cassio BOSS. It's a pity that its development stopped at the original model. But if you have $500 to spare, get an HP95LX. It will change your life.

XBoot: A Neat Boot Utility

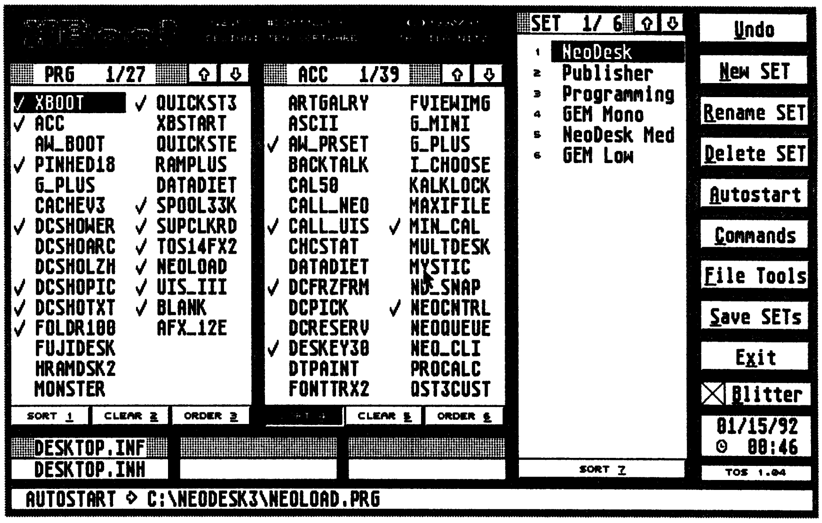
Just a short trip back into the Atari ST field. Gribnif Software just started selling *XBoot,* a program to configure your machine upon boot-up. The program has been developed in Germany; Gribnif offers marketing and support in the U.S.

XBoot is very much like the popular *Super Boot* (recently in its Version 7): it allows you to decide which auto programs and desktop accessories will be activated when the computer starts running. It has, however, some extra nice touches which may justify spending $40 for it (check whether Gribnif still has the $30 special!).

First of all, *XBoot*, running from the \AUTO\ folder has a full graphic interface. How they did it I do not know, but they did it! Using it is very convenient and intuitive.

Second, there are some extra goodies. No, no music or pictures (this just slows the process down), but in addition to different pre-defined configurations (*Super Boot* has them, too), *XBoot* allows to choose between different user-defined set-up files (not just DESKTOP.INF or ASSIGN.SYS) for various programs, and to add a sequence of automatically executed operations (including program execution) to any pre-defined boot sequence, to re-arrange the order of auto program execution, and more. Especially if you have a hard drive, you will find *XBoot* a very good buy.

The built-in file selector allows you to set or reset the fast load bit in programs and accessories—this allowed me to get rid of most of my boot-up conflicts on the spot.



```
PRG   1/27                  ACC   1/39
✓ XBOOT     ✓ QUICKST3       ARTGALRY     FVIEWIMG
✓ ACC         XBSTART        ASCII        G_MINI
  AW_BOOT     QUICKSTE     ✓ AW_PRSET     G_PLUS
✓ PINHED18    RAMPLUS        BACKTALK     I_CHOOSE
  G_PLUS      DATADIET       CAL50        KALKLOCK
  CACHEV3   ✓ SPOOL33K       CALL_NEO     MAXIFILE
✓ DCSHOWER  ✓ SUPCLKRD     ✓ CALL_VIS   ✓ MIN_CAL
  DCSHOARC  ✓ TOS14FX2       CHCSTAT      MULTDESK
  DCSHOLZH  ✓ NEOLOAD        DATADIET     MYSTIC
✓ DCSHOPIC  ✓ VIS_III      ✓ DCFRZFRM     ND_SNAP
✓ DCSHOTXT  ✓ BLANK          DCPICK     ✓ NEOCNTRL
✓ FOLDR100    AFX_12E        DCRESERV     NEOQUEUE
  FUJIDESK                 ✓ DESKEY30     NEO_CLI
  HRAMDSK2                   DTPAINT      PROCALC
  MONSTER                    FONTTRX2     OST3CUST

SET  1/ 6
1 NeoDesk
2 Publisher
3 Programming
4 GEM Mono
5 NeoDesk Med
6 GEM Low

DESKTOP.INF
DESKTOP.INH
AUTOSTART ◇ C:\NEODESK3\NEOLOAD.PRG
01/15/92  ◷ 00:46
TOS 1.04
```

XBoot is much less intimidating and easier to use than *Super Boot* (this may be, of course, a subjective opinion), while giving you much more control than easier but simpler boot configuration programs (my own *AW_Boot* in this number).

The program looks good, works as advertised and comes with well-written manual. I am very glad I bought it, and I know you will like it, too.

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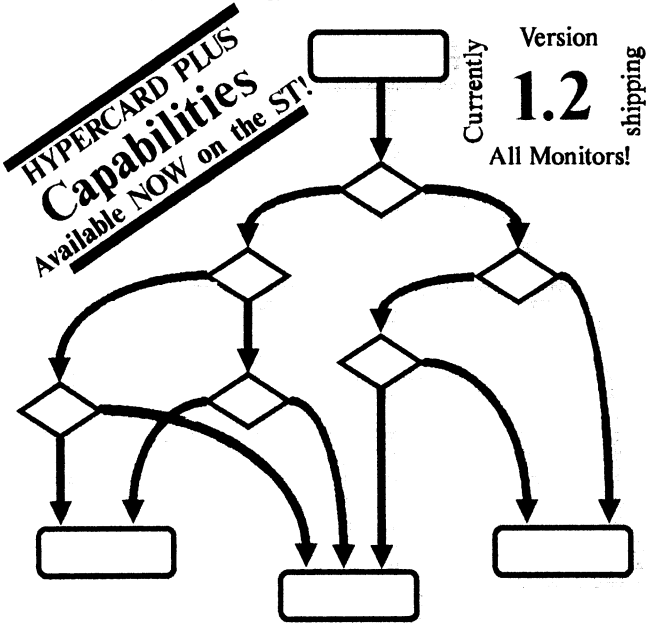

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Small World

Heresy

Part 1

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Non Conformists?

Many computer programmers seem like the ultimate non-conformists when you meet them. The first time is usually the biggest shock. Imagine a guy with hair down his back in a ponytail, held in place with a rubberband and natural grease, and a beard that would make Fidel Castro wilt in envy. He works out every day, and takes a shower ... uh ... monthly? ... and you just sorta deftly move upwind as you shake hands, wondering where the nearest disinfectant is. Shaking hands with him is like being licked by a strange dog who has been into Heaven Knows What.

I've met so many people like this that it doesn't even seem remarkable to me anymore. If you'd like to, hit any University Computer Center and watch for grad students in particular.

But for all this non-conformism, you would be astonished if you saw 50 or so of these hackers together. They look like clones. They are completely, absolutely conforming! (It is hilariously like teenage "non-conformists" who wear the *same* jeans, punk-shaven hair, drive hot cars, and all that.) And these hackers share many common beliefs about programming "beyond question." Believe me: dare to question those beliefs, and you're *out* of the clique so fast your head'll spin.

I know. I'm out of the clique. I questioned the beliefs. (In fact, if you want to get right down to it, I personality-type measure to type "Questioner." Think of George Carlin and you've about got it.)

All of this, and particularly the one-shower-a-month, makes me itch. I once took a personality profile that measured conformism, and scored nearly zero; maybe that's why.

So I present for your edification some heresy here, and expect to get some vegetables tossed at me next time I hit a computer show. (Actually, they'll be "virtual vegetables" tossed "online" through the "Internet" / USENET network, but what the heck.)

I caution you that I'm moving the selector lever from "Accurate Single-Shot" to "Fully Automatic." As you undoubtedly know, the muzzle climbs on full-auto, and any machine gunner will tell you to "walk your fire into the target"; e.g., watch where you're hitting, and correct it. So some of my points here may not be written in the precise way that'll work for you, but try "walking them in"; try looking for the overall principle I'm aiming for and struggling to get across.

Note to the reader: In the rewrite pass, I've gone over this article's structure (its "bones," what it is trying to say) and added a number of by-the-way items, which do tend to cloud the structure--but make it much more fun to read. You will see a few discontinuities where I broke in, though. The reason for this is in the final paragraphs.

So on with the heresies.

Niklaus Wirth Is Not God

Kindly Prof. Wirth is the one who invented **Pascal** and **Modula**, and kicked the world in the direction of structured programming. Pascal is a teaching language *only*, intended to show the world how structured programming should work, but was never designed for real-life use; that's what Modula is for (he says so himself).

Frankly, if I were him, I'm not sure I would like to be remembered for Pascal.

But, unfortunately, anything Wirth says is taken as Words from the Tablets of Moses, much like anything Brian Kernighan or Dennis Ritchie says is taken as The Last Word on the "C" language. It is as absurd as if the original Henry Ford's comments on a new 1992 Ford were considered Absolutely Correct just because he invented the Model-T. Some folks need to grow up; when they were little, it was He-Man™ and Super-Man; now it's K&R or Wirth they have Absolute Belief in.

This sort of unthinking "hero worship" is always bad. Who was it who said the word "believe" is the most frightening, because it implies you've switched your mind off?

So Wirth put out Pascal as a teaching-only language. The Pascal language was implemented on a variety of computers, and real-world programmers rapidly discovered a few bad things about it. Namely, it *got in your way.* You knew what you wanted to do, but the blankety-blank language wouldn't let you do what you wanted. (Purists will then tell you that what you wanted was bad; FOO! I paid for the blasted computer; I want to get what I want.) Pascal has almost no real-world input/output; just read-1-character or read-1-line from files. Same with output. Impressive. I'll tell you, I'm sure going to write in a language that ties one hand behind my back.

I suppose I have a deep, personal hatred of Pascal for two reasons: people tried to cram it down my throat in college, where I escaped just before it became mandatory (and in my opinion, made computers beyond comprehension for the majority of people, for whom structure is alien, something like Calculus II), and the Macintosh ROMs that I spend so much time in are written in Pascal mostly (unfortunately), and I have to wade through all the trash Pascal generates, compiled to assembler and stored in those ROMs.

There is some hand-crafted (note "crafted") assembler in those ROMS by Andy Hertzfeld, a wizard, and comparing his clean, fast work to the crap that the Pascal compiler made (all the useless LINK statements, for instance) is *very* educational. The resultant code from Pascal that is translated into assembler by a dimwit thing called a "Compiler" is horridly inefficient; me, if I write a program, I would rather like to be proud of it and its speed, and be known for it.

Maybe that's why programmers at Apple don't put their names on their programs anymore.

Maybe that's why a whole bunch of them were just laid off..? No. I'm sure they wrote fine code. Upper Management didn't "code" real well, though.

Note: I am well aware of the difference between assembler and machine code; I am blurring the difference because it doesn't matter for the purposes of this article. Sit down.

Structured Programming Is a Crock

Hackers Use Structured Programming, as part of the conformism. Well, I don't, and my attempts to have been dismal failures; if I may be serious a moment, it *feels* like doing violence against myself to write a program in this manner. However, structured programming reflects a specific personality type, that of Meyers-Briggs NT, which I've found nearly all computer hackers share. (I've written about this in other issues; in one sentence, nearly all hackers come from one *rare*, 1-in-10 personality-type group with a very, very different set of beliefs and ways of reacting. Other psychologists have noticed this as well.) NT's are fundamentally architects, and all that a computer program is reflects architecture.

I am not an NT; when measured, I lie precisely opposite the scale. But perhaps my ravings might give some perspective.

Structured Programming Advocates believe that all programming problems can be broken up into a few simple constructs--the Do-While (a FOR-NEXT) loop, the CASE statement (series of IF-THEN-ELSE statements), and so forth. And they believe this *should* be done, that it is the right thing to do. Imagine a small child with Leggos, breaking them down into little pieces, and re-assembling them, and you have a NT Structured Programmer in the making. To an NT hacker, this makes perfect, intuitive sense. To the other 90% of the population who are not NT's (statistically), this is bewildering.

You Must Use Subroutines

To me, breaking a program down into 7,000 little subroutines, each of which does one thing, makes it even *less* comprehensible than one larger program. It's *very much* like trying to write a novel if every paragraph were in a separate file! (Or putting a magazine together from separate files ... my poor Editor!) Adopt AT&T programming style, where every subroutine must be in a separate file, and you've got one heck of a mess on your hands; you then need a "MAKE" program in which you specify how you want your program built up out of these thousands of little pieces.

Look. Let's have a reality check. Okay, so you've cracked your program apart into 500 modules with much pain and effort, imported and exported variables, and with *much* pain built up a MAKE that compiles and links your program together, thus *bringing it all back together.*

What is wrong with this picture? Use the words "hours" or "days" in your reply.

Compare and contrast poor simple-minded Dave: I just write the program in one piece, compile it, and I'm done. I have not expended the (considerable) effort to crack it apart, then (considerable effort) put it back together again. If I may be sarcastic, Humpty-Dumpty is still sitting on the wall; I didn't have to glue him back together.

Computers Are Not Perfect

Add to this Small's 17th Law of Computers: They ain't perfect yet. The tools of cracking-apart and re-assembling are imperfect.

In the process of cracking your program apart, doing compiles, and re-linking it back together, you are hammering on your computer pretty hard. *You're going to discover every bug in the file system, compiler, and linker the hard way.* I have seen this so many times I don't even sigh in disgust anymore.

I really like it when ALN (Atari's new linker) gives me an error message ("short fixup error") when linking files that used to link *just fine* with the older LO68/ RELMOD, for example. (Guess what I use?) Look, if something *were* wrong, I think I would have found it by now, in the zillionth iteration of software. That is one example of many I could cite.

Don't be a fool and assume computers are perfect. A little paranoia is very healthy. If you will think back to any computer's history, you will see the same pattern: release the computers, and start releasing bug fixes. Atari? 40-folder bug, underline bug in rename, AS68's 97 bugs I have a list of, RELMOD's infuriating "fill up the entire disk" bug if the input file is wrong, the various questionable hardware things (bringing the RESET line out to disk drives with no buffering? Oh, *come on!*) and whatnot.

You know what I do? I stick with one assembler/linker, and as I find bugs, I add them to the BUGS folder on my computer, keep track of them. I *do not* switch tools unless torture is the alternative, because I know and can work around the bugs with a given tool. (Do not put two labels together with no opcode field in AS68, for instance. Do not use conditional assembly with AS68.) I only moved to HiSoft's assembly package with fear and much trembling; while I found a few interesting things (how the heck do you make it produce PC relative code?) it works well.

Another Reality Check: People, the Mac emulator Spectre GCR *has* to correct flaws in Mac programs where they try to write into location 0, as the result of a programming/logic error (Nil pointer: literally, they got a pointer, then did an operation that moved memory, and the pointer got zeroed.)

I will state for the record that *one half* of Mac software out there, *including most of the programs that the Mac is famous for*, are *riddled* with zero-store errors. These are programs written mostly in "C" and Pascal, running on top of an operating system coded in Pascal, and written by people who are considered among the very best in the business.

They simply could not keep track anymore of their pointers and if the pointers were still valid; some of the memory-move operations are *incredibly* subtle.

Just starting up the Mac, to get to the "Desktop," I see about eight zerostore faults! Guess who wrote that?

The only reason the Mac gets away with this is that location 0 happens, by raw luck, to be RAM, and no bus error happens (unlike the ST; that's why I have to *fix* it!) But often these bugs come back to haunt the program, sadly; that zero-store was a *store*, darn it, something *important* was not stored properly. When it reads back, the right stuff ain't there, and *wham!* Address error, usually (3 bombs on ST, ID=2 crash on Mac). Overall, it would have been better if location 0 were modified to be an automatic error so programmers fixed their code; to their credit, Apple encourages this. See also: Amiga.

If you're willing to sign a non-disclosure, I will be happy to take you for a stomach-turning tour of Mac programs that run by accident. I won't name them right here because lawsuits are a drag.

Small's Law #15: Really hot programmers subscribe to every network and magazine they can and *keep stored online!* or tear-out mentions of bugs and programming hints. You would be *amazed* at how much help even one magazine article can be.

Small's Law #16: You would be amazed at how much money can be made off that one article. Do you like money?

Small's Law #17: "Someone should write a Macintosh Emulator for the new Atari ST, and collect the pot of gold at the bottom of the rainbow!"--by David and Sandy Small, early 1985, Creative Computing magazine. [It was running by end of 1985.]

It Is Easier to See What the Computer Is Doing in Assembler

I like learning from my mistakes. I found that when I distanced myself from what my code was doing to the computer, like with "C," it became *much* harder to debug. And debugging is a *big* percentage of programmer time! When I used assembler, I could trace, step by step, what I did to the computer, and find the precise error.

C? I mean, forget it. You had to drop back to Dark Age Debugging (putting in lines of code that write out, "I made it to line 10! I made it to line 20!" and junk like that.)

I am not interested in a career of going *over* and *over* my "C" code, looking for a bug I can't trace directly. Those are called "head-scratcher" problems. And guess what? Sometimes it *really is* a screwup in the C compiler/library/ operating system, not your fault, and you will never find it. Period.

With assembler, you *will* find it as you trace through, because you're seeing the computer at the real level, not some mythical "perfect computer" error. You can even fix stuff ... say, PC relative code ... that you *cannot write directly*, by plugging bytes in directly.

So I got in the assembler habit. When I crash, I go trotting over to locations $380-$3FF and see the precise address I crashed at. Or I kick the debugger into TRACE mode and watch the crash happen. Or, *most fun*, I use the Zax in-circuit emulator; if you ever crash, the Zax will tell you the last 4,096 things the computer did right before. Talk about a Sherlock Holmes Tool!

Then I go fix it. Immediately. No head scratching. Usually the problem shows up instantly.

If you like sound on Spectre, it's there because the Zax showed me the Atari hardware was doing something, quote, "impossible." Well, it does it, sorry. Spectre 3.0 was made *far* better using the Zax.

(Now to be fair, "C" toolmakers are releasing tracers that let "C" programmers track what their code is doing, and bear more than a trivial resemblance to assembler tracing, which is what I've been doing. In comparison to the Zax and DB, they're up to, oh, the start of the Industrial Age.)

Not Easier to Maintain

Structured Programming zealots say you ought to crack your program apart into tiny modules of just a very few types. By breaking your program apart into these structures, the conformists claim, you have made it easier to maintain.

Foo, I say. *The hardest problems to solve in programming are the simplest ones conceptually.* Those do not change with programming style. (The other problems are pretty much typos or bugs in your stupid "C" compiler, friend. Has the company released the upgrade that doesn't force word-aligns on SHORT definitions? Golly, no wonder that disk code had trouble.)

Sample: You have an area to enclose with a fence. Each fencepost must come every 4 feet. The area is 40 feet square; thus, each side takes 10 fenceposts. How many fenceposts do you need?

The answer is not 40; think closely. The fenceposts on the corner screw things up because they become the first (and last) fenceposts of other sides. I *think* the correct answer is 37.

I'm wrong about the 10 fenceposts per side, too, but thought I would slide it by to see if you "intuitively" caught it, since this is a "self-commenting" article (chuckle). It takes 11! To quickly visualize, imagine a mini-fence 4 feet long, fence post every 2 feet: you need a starting post #0, post #1 (2 feet), post #2 (4 feet). 3 posts total, when 4 feet / 2 feet per post gave you 2 as an answer.

This *classic* computer programming error is so very common it is literally called a *fencepost error*, or a "one-off" error. To me it represents the extreme philosophical problem of making anything a computer says have meaning to the rest of the world.

There are many classic bugs like this. And breaking your program apart into little pieces isn't going to help you fix it if you have one. The problem is in your *head*, not in the computer!

King Solomon's Error

I'd like to name another "Classic Error" called King Solomon's Error. Remember the story of when Solomon offered to chop a baby in half to solve the problem of two women disputing who was its mom? Well, split a program into pieces, and you, too, will find it is a *pain* to figure out interactions between the various modules, *simply because you cannot see them on the screen at the same time.* I believe I see this problem more clearly because of writing; when writing, I like seeing all that I can onscreen. The more, the better.

If possible, I use a Moniterm--and I offer rich rewards to *anyone* who will modify any editor to use both "pages" of the Moniterm while writing, so I can see two pages at a time. Seeing more helps tie the writing together into one smooth flow. No? Go try write on a 8-line display and watch the garble that emerges.

Me? When I want to maintain something, I pull the *entire program's* code in, at once, to a text editor. If I'm editing (let's say) the keyboard/mouse code of Spectre, I do a "Find" of, literally, "findmouse," a comment that is right by the mouse code, and which is there to find that code quickly. The editor takes me straight to the code, zap, and I can look at how the code interacts with other parts of the program right there instead of opening up other files, and so forth.

I can't tell you how many interaction errors I would have missed if everything wasn't right there to look at.

To Be Continued...

I am running out of space so I will end part one of my heresies here. Next month, I will continue with a look at the "C" Heresy and the Basic Heresy. In the meantime, if you would like to start tossing some tomatoes my way, here's some network addresses:

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See you next time!

■■■■■■■

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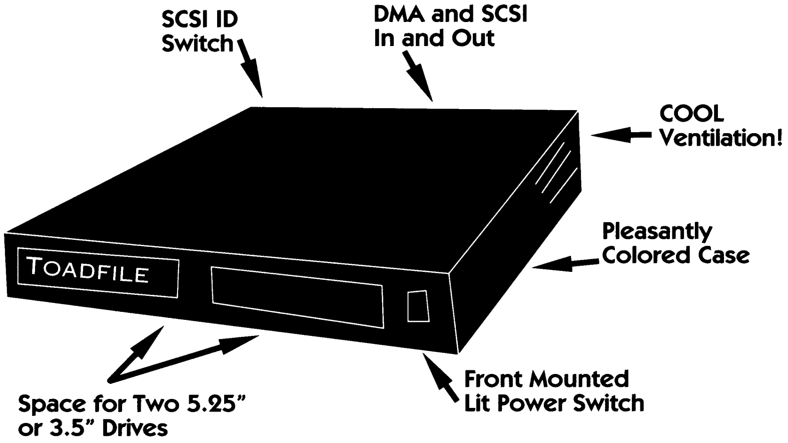
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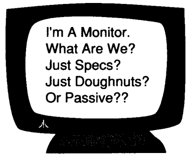
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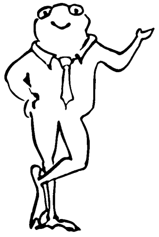

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Planning to Avoid Computer Insecurity

by John Barnes

Part 1

Many people think that "Computer Security" deals with topics like worms on the Internet or viruses wending their evil ways into hard drives the world over. After having gone through a thorough evaluation of computer security for the system I manage at work, I can attest that, while these are important, they are only part of the story. In their own small way, Atari users have to be just as concerned with the overall integrity of their systems as do the professionals who depend on computers to make their living.

Anyone who does not have a plan to safeguard the integrity of his computer hardware, software, and data is courting computer insecurity of the worst kind. When dealing with failures in computer systems it is not a question of *if,* but *when.* Most of what goes into formulating a plan for home computer security is simple common sense. Couple this with a healthy paranoia and a modest diligence and it should be possible to get a good night's sleep.

The Hardware

Let's start with the machine itself. It must be well made. (Do you remember the "drop it 3 or 4 inches" repair for 520s with loose chips?) The power supply has to be rated properly, with neither too little nor too much muscle to power everything under the hood. The interface chips to drive external devices must be properly designed. (Remember the problems of some hard drives when connected to early STe's?) Think about this when plugging devices into the cartridge port or adding internal drives or expansion gadgets.

Disk drives should be properly mounted and positioned. It is a poor idea to put them where they can be kicked or where they will fall off the table. Atari users have problems with this because most of our add-ons have to be mounted externally. Perhaps we will see some new tower cases that will let us build nice, rugged setups.

Floppy disk drives must be properly aligned. Rewriting a distribution disk with a badly aligned drive is asking for grief. These problems seem to be less common nowadays, but they were real enough in earlier units. The manifestations can range all of the way from "Data on Drive A May Be Damaged" to subtle corruption of the data when a file is copied. The consequences of this latter event may not become apparent until long after the act has occurred.

Removable disk media are not as reliable as fixed media, although the new read-write optical drives offer some significant advantages. Removable media are also subject to damage from dust, liquid spills, or magnetic fields. In my opinion, it is unwise to depend on Syquest cartridges for continuous operation. Properly cared for they are fine as backup media.

Cabling and connections to peripheral devices must be electrically and mechanically sound. Overly long cable runs to printers or hard drives can give rise to unpredictable behavior. Modem connections and phone lines can be noisy. Most of the time these flaws are obvious, but sometimes they are not. Contacts on connectors can corrode over time. Dust can get into the guts of a CPU or a disk drive. No amount of beating on a flaky system will restore lost data. Stay alert for unusual behavior.

Professional computer service people are armed with diagnostic tools for verifying the integrity of hardware and software. Prudent businesses keep critical machines under service contracts that emphasize preventive maintenance. Aside from tools like ICD's *Cleanup,* which checks hard drives for mangled directories and bad sectors (although one really needs specialized hardware to do this properly), ST users do not have useful diagnostic tools. Best Electronics does sell the kit Atari service centers use for diagnosing faulty computers. Given the scarcity of service centers, this might be a good investment for a user group.

It would be nice to have things like certified floppy discs, removable disk cartridges, and tapes to check drive performance. ICD should issue something that can be used to interpret the cryptic codes that crop up from time to time on the SCSI bus. A software exerciser might be useful, as would a shop manual like the ones available for automobiles. As users move into the era of orphaned Atari computers, they will need to be more self-reliant.

The Environment

Computers are not designed to run in the Arctic, Death Valley, or a tropical rain forest. It is possible to suffocate them by blocking the air flow they need to keep their cool. Treat them right by providing a climate-controlled, clean environment.

Eating, drinking, and smoking at the keyboard are bad ideas. Those who insist on fueling their creativity with caffeine or nicotine should be prepared to pay the price. A spare keyboard and disk drive might be good things for these folks to have on hand.

Decent electrical power is also a must. Rats' nests of power cords are an invitation to a disconnect or, if the wiring gets overloaded, a fire. It is not a good idea to have unprotected computers on circuits supporting motors that are noisy or that operate intermittently (refrigerators, blenders, microwave ovens, etc). Some computer power supplies do a good job of filtering out spikes and noise; others may not. Clean computer power costs several hundred dollars, but it may be a necessity in some areas or for some applications (BBS's, offices, or laboratories).

Every BBS user has experienced downtime because a system has been knocked out by a lightning strike. Almost everyone has been affected by a spike or sag in the power line at one time or another. If these events occur while writing to a disk drive, the result could be massive corruption.

Unauthorized Access

Most of the attention with regard to invaders messing up computers is focused on networks. Networks are like highways—they are open to everybody, thugs included. Most ST users need not be concerned with this because there is no hardware or software to let them hook up to the Internet or some similar open network. BBS sysops do have to worry, however, because they serve a large public, which may contain some bad eggs who need only a modem and a phone line to express their impulses.

Responsible sysops take pains to verify the identity of their users and the integrity of the data that they handle. Of course, unauthorized users may include children, pets (my cat used to enjoy walking on the keyboard while I was writing), or visitors to a household. Some minimal degree of alertness can prevent data loss. Home computer users should not leave their machines turned on unnecessarily.

Viruses

Viruses are computer programs that insert themselves in another product to gain entry to a system. The most common form found in North America are "boot sector" viruses that ride on floppy discs. George Woodside has provided a freeware program named *VKILLER* that is available in the CN library and on almost any BBS system. On the whole, however, the ST community on this side of the pond is fortunate to be free of these beasties, perhaps because the market is too small for a virus writer to gain much satisfaction from the damage he has wreaked.

Viruses that migrate from the boot sector onto the hard drive and propagate from there are called "link viruses." The DOS and Mac worlds are full of these, and they are a real concern in the workplace because some of them are very malicious indeed. European ST users report some encounters with link viruses and there is software to ferret them out. There have not been any serious reports of link viruses in the U.S. ST community. I am not aware of any PD program available in the U.S. for detecting link viruses.

Every now and then some user will holler "virus" when his system starts acting up, but the cause invariably comes from something else—faulty cabling, trashed directory structures from software crashes, failure to follow instructions, etc.

Software Integrity

It is possible for software that runs amok to do real damage to a computer system. Every piece of software has a bug in it somewhere that will eventually cause a problem. In extreme cases, such a crash may mangle data on mass storage devices. ICD's *Cleanup* may be able to solve some of these problems, but there is usually some loss of data.

Good Data Practices

Most people feel secure if their data is secure. Hardware that fails can usually be replaced and the user will be back in business when the data is restored.

Data includes applications and documents. An investment in software applications may run to several thousand dollars and the user's own time in creating documents is usually substantial. The loss of critical financial, household, or business records could bring on disaster.

Lost applications may be irreplaceable because the source has gone out of business. Lost documents may be unrecoverable.

Some people that I know do not keep their source documents on hard drives under any conditions. They work from floppies and duplicate these frequently. This is fine for documents of modest length, like source codes for computer programs, text files for DTP applications, spread sheets, financial databases, etc. It is also essential to keep paper copies—the human eyeball is an even more universal data transfer tool than an ASCII file if something has to be rebuilt. In the case of financial records or legal documents it is not clear just how much standing a computer file enjoys.

The vendors of serious business applications have largely abandoned the notion of protecting their software with bizarre tricks on distribution disks. It is recognized that the user has a right, sometimes even an obligation, to make backup copies that can be stored in more than one place. While an ordinary home user does not need to rent a vault in a special storage facility, it is a good idea to store an extra backup set of critical applications and data at the office.

I do not know why so many producers ship their products with write protection disabled on the disks. I always write protect the disk the minute I take it out of the box. I am also not particularly fond of producers who require the user to rewrite the original disk when installing an application because there is potential for damage in this process. There are surely better schemes for guarding against piracy.

Good practice includes redundancy; reliance on a single method can lead to trouble. Suppose the tape drive fails just when it is needed? How long will it take to repair it (that is, if it is possible to do so)?

Don't Panic

When disaster strikes, it is important to stay cool. Take stock of the situation. Is there a backup? What should be done to keep the damage from spreading? Is there something that can be done to recover data? All too often people try reformatting their disks before they know what is wrong.

I recently experienced a loss of a disk drive that had been acting a little flaky for some time. I had backed up the data on tape, but it was in a format that did not permit restoration to an alternative disk drive. I had violated my redundancy rule by relying too much on the tape (although it would certainly have been possible to restore the data to a drive that was the twin of the one that failed).

A few minutes labor in a repair shop proved that the built-in controller board of the drive was bad. When this was swapped with the board from another unit, all of the data magically reappeared.

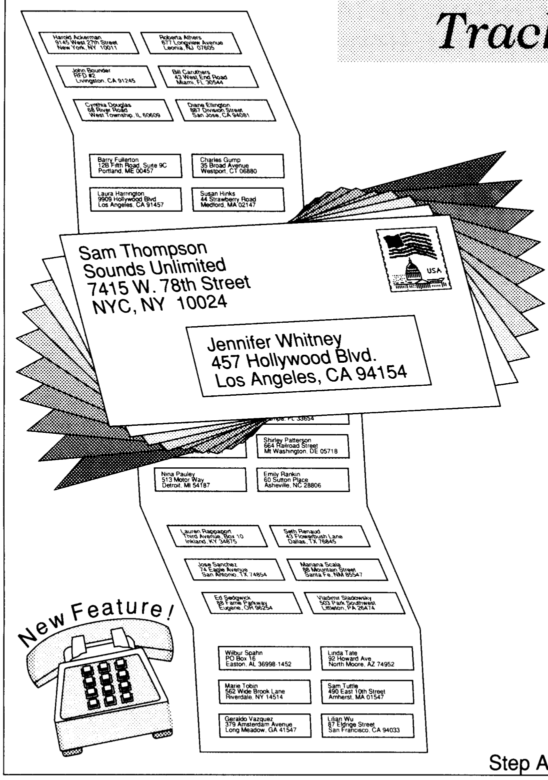
I have heard of cases where data from a hard disk was restored by using an optical readout of the magnetic bit patterns on the undamaged part of the disk platter. This is certainly too expensive for a home user, but it does prove that some data can be called back from that great bit bucket in the sky.

In another case, an acquaintance had a floppy whose shutter spring had failed. I advised my friend to simply remove the entire shutter assembly and copy the disk to another one. Voila!

In yet a third case a colleague spilled coffee on an 8-inch floppy (of a type familiar to CP/M users). By carefully removing the disk from its flexible jacket, rinsing it with clean distilled water, and reinserting it in a fresh jacket, we were able to duplicate the priceless data on that disk.

To Be Continued

In focusing on identifying problems, I avoided discussing software for backing up Atari drives. The progress that has been made in this area is the subject for next month's installment in the quest for cures for computer insecurity. Until then, I urge you to take a good look at your entire system. Review your needs for data backup, take a good look at your hardware, and above all, set aside some time to get things in order to forestall the day that a system crash leaves you frustrated and bewildered.



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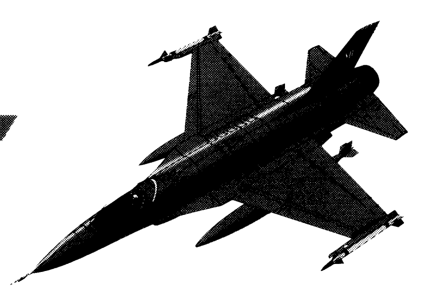

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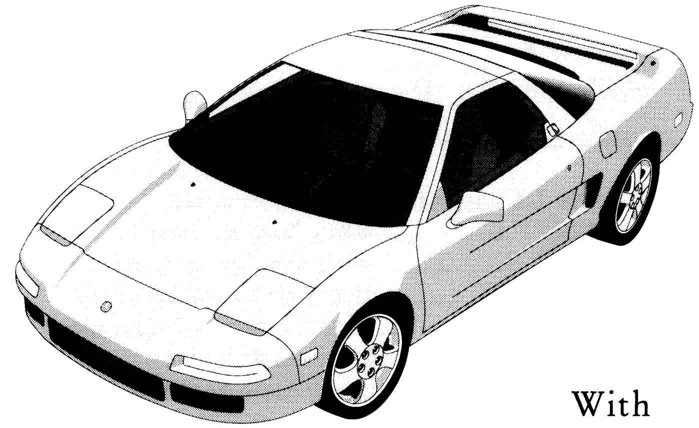

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eSTeem™ PILOT

Create tutorials ... Interface your ST with a laser videodisc player .... CD ROM

Review by Bill Moes

A computer language for educators ... includes RS232 serial port device control.

eSTeem PILOT is a programming language designed for use in education and research. PILOT (Programmed Inquiry, Learning Or Teaching) was originally developed in the 1960s by John Starkweather as a text-only language. Versions for many personal computers, including the Atari 8-bit computers, were later created. The versions each added additional capabilities to match the power of the machine.

The ST version reviewed here, written by Tom Nielsen, includes features covering graphics in the ST's medium and high resolutions, along with sound functions. *eSTeem PILOT* also includes capabilities to tie the ST to a laser videodisc player, opening new opportunities in education and instruction. This laser-disc capability is an exciting feature on an already strongly-developed implementation of PILOT.

PILOT is a language primarily designed to create tutorials and other types of computer-based instruction. *eSTeem PILOT*'s features, however, also allow the development of systems/device control programs.

The Language

PILOT is a relatively easy language to program. Like all languages, PILOT has a set of commands used within the language.

Table 1 provides a list of the common PILOT commands along with a very brief description. Most commands also have a one or two letter abbreviation, usually used, but not listed. Some commands may have uses other than those listed here. The ACCEPT command, for example, may be used to assign a value to a variable, in addition to the use indicated.

The FILE command actually includes a series of subcommands:

OPEN	opens disk file
POSITION	positions file pointer
READ	reads data from drive
WRITE	writes data to floppy

Table 1. Common PILOT Commands

ACCEPT	input from keyboard
COMPUTE	assigns value to variable
DIMENSION	reserves storage for array
END	ends module, sub-module
FILE	access disk drives
GRAPHIC	manipulate graphics
HELP	enables <HELP> key
JUMP	transfers control to label
KEEP	records to dribble file
LINK	load/run another module
MATCH	tests ACCEPT buffer
NO	an alternative to TYPE
ON	sets event-driven conditions
PROBLEM	used as pseudo label
REMARK	programmer's remarks
SOUND	music, sound effects
TYPE	prints text to screen
USE	transfers to sub-module
VIDEO	link laserdisc player
WAIT	wait for specified time
XECUTE	execute another program
YES	type text with match

The GRAPHIC command listed above also has a series of subcommands (see table 2). They take advantage of the ST's power in medium and high resolution. Up to two Degas (normal/compressed) files and eight IMG files may be in PILOT's memory at one time.

Table 2. Graphic commands

CHANGE FORM	of mouse pointer
CLOSE	close the graphic buffers
DRAG BOX	mouse drags variable box
DRAW	box, pie, circle, line, fill
ERASE	erase screen graphics
GRAPHIC SCREEN	opens full
HIDE MARKER	hides 1 of 5 markers

HIDE MOUSE	hides mouse pointer
HIDE POINTER	for flashing pointer
LOAD	PI2/3, PC2/3, IMG files
LOCATE MOUSE	shows mouse pointer
PICK MARKER	picks 1 of markers
SHOW GRAPHIC	2 PI + 8 GEM
SHOW MARKER	<=5 flashing markers
SHOW MOUSE	displays current mouse
SHOW POINTER	displays flashing
SPLIT SCREEN	sizes are variable
TEXT SCREEN	for full text screen
TOGGLE	toggles between screens
UNDO	enables <UNDO> toggle key
WRITE	text on graphics screen

A variety of sounds may be produced on the ST. The specific subcommands for SOUND are listed in table 3.

Table 3. Sound Commands

CLEAR	empties sound buffers
DO	plays sound from buffers
GIACCESS	instruction in register
KEYCLICK	on/off keyboard click
LOAD	sound bytes into buffers
MIXER	tones/noises for 3 voices
WAIT	delay for sound effects

An interesting and powerful application of *eSTeem PILOT* is its interface with a laser videodisc player. This allows the creation and use of interactive videodisc materials. The laserdisc player interfaced must have an RS232 serial port. This is usually found on laserdisc players purchased by schools and industry, such as the Pioneer models LD-V4200, LD-V6000, and LD-V8000. Most home video laserdisc players do *not* have have an RS232 serial interface. Specific *eSTeem PILOT* subcommands for the laserdisc player are listed in table 4.

Table 4. Laserdisc Commands

CONFIG	for ST's serial port
DELAY	delay for sending data
OFF	disables serial port
ON	enables messages of serial
RECEIVE	message of video buffer
SEND	command to video player
S/R	sends/receives single command
STATUS	message from player
WAIT	enable/disable time delay

The final section of *eSTeem PILOT*'s commands deals with the control of other devices through the ST's RS232 serial port. The inclusion of these commands means that it's possible to design your own devices to be manipulated through this version of PILOT. These devices may be robotic, machines, weather stations, or other types of education/home/business control devices.

Table 5. RS232 Commands

CONFIG	serial port for RS232
DELAY	delays send/receive data
NEWLINE	character(s) for serial
OFF	disables messages from serial
ON	enables message from port
RECEIVE	content of input buffer
SEND	data to RS232 device
S/R	sends & receives with RS232
STATUS	message from device
WAIT	time delay in communication
EXECUTE	run external program

The most brief summary definition for each of the above commands should not be considered comprehensive. The documentation for *eSTeem PILOT* explains each command or subcommand thoroughly.

The commands each take advantage of the ST's strengths. For example, the graphic command to "change form" will show the selected one of seven mouse forms (arrow, I-beam, bee, pointing hand, flat hand, thin crosshairs, or thick crosshairs).

The graphic command to "draw" has the expected array of variations (arguments): box, rounded-box, circle, pieslice, and line. Fill attributes (a choice from 24 patterns and 12 hatches) can be specified for the closed shapes. The line offers six patterns, eight widths, and start/end shapes among its options.

The examples given in the documentation for each of the dozens of commands are brief. They are sufficient, though, given the over-all simplicity of the PILOT language.

Other Notes

One feature the documentation lacks, however, is any tutorial. The most recent version (v. 1.52) of *eSTeem PILOT* included a Lessons folder (empty). As the language continues its refinement and that folder begins to contain material, many potential users should become more comfortable. The lessons will be available on GEnie as they're developed. The documentation does list Starkweather's book, *A User's Guide to PILOT*, in its references.

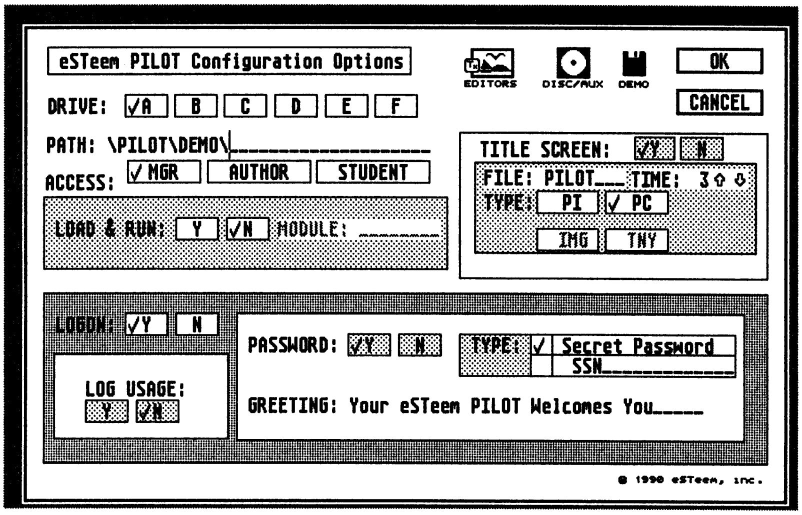
In any case, the core PILOT commands are not difficult to learn. Indeed, my two older daughters studied the Atari 8-bit version and used it to write brief programs of their own when they were pre-teens. But the ST version is certainly much more complex and a little guidance in the early stages, or through some of the trickier programming, would be most beneficial, and, perhaps, necessary.

Remember, PILOT is a computer language and any computer language takes time and effort to learn, particularly for those with little previous programming experience. As an interpreted language (not compiled), it is not fast. PILOT is not going to be used to write arcade games; educational simulations would be well within its realm.

Documentation for *eSTeem PILOT* comes in a three-ring binder containing 220+ pages. Each PILOT command is listed, with an explanation of its syntax, a programming example, any arguments needed for use, a summary of its use within a module, and references to related commands in the language. That is all most helpful.

An explanation of the keyboard as used within *eSTeem PILOT* is given, along with a general overview of the language. Included are the types of PILOT statements along with the constants and variables used within the language.

Appendixes are included listing system variables, error messages, references, and a few program listings of useful modules. An index for the documentation is printed. A quick reference card is in the package.



eSTeem PILOT Configuration Options

DRIVE: ☑ A ☐ B ☐ C ☐ D ☐ E ☐ F

PATH: \PILOT\DEMO\__________________

ACCESS: ☑ MGR ☐ AUTHOR ☐ STUDENT

LOAD & RUN: ☐ Y ☑ N MODULE: ________

TITLE SCREEN: ☑ Y ☐ N

FILE: PILOT___ TIME: 3 ⇧ ⇩

TYPE: ☐ PI ☑ PC ☐ IMG ☐ TNY

LOGON: ☑ Y ☐ N

LOG USAGE: ☐ Y ☑ N

PASSWORD: ☑ Y ☐ N

TYPE: ☑ Secret Password ☐ SSN__________

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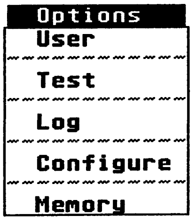
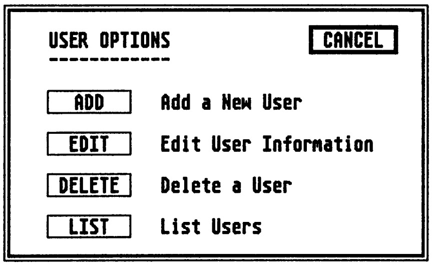
Setting Up

There are two versions of *eSTeem PILOT* available: one for the individual user and one for educators. The difference: with the version for groups of people, the professional version, a managing system is included.

In that professional version, there are three levels of PILOT users: manager, author, and student. The manager will set up the entire system, determining who may use which PILOT modules and how they are to be used. The author will write PILOT modules for the student to use.

When first setting up the *eSTeem PILOT* system for use with groups of students, there are several features designed to help management. The PILOT modules (or programs to be run within the PILOT language) may be used for several different reasons or by several different people. To control the program, access is determined by parameters. These parameters regulate who uses the modules, how they're used, and the defaults needed.





USER OPTIONS

ADD Add a New User

EDIT Edit User Information

DELETE Delete a User

LIST List Users

Each user generally needs to log onto the PILOT system by selecting his name and then entering a personal five-digit code. This logon procedure may also be omitted. A specific module is then selected for use.

Once the module has been loaded, PILOT's GEM menu will be displayed. The item <BEGIN> should then be click-selected; the module will run. This is a straightforward process. The GEM interface makes it all relatively comfortable. The PILOT manager may set up a module to auto-run.

Other options include setting up the logon procedure (if used), determining the path directories for PILOT modules, logging usage, installing any needed auxiliary devices (such as a videodisc player), enabling a password, setting up a greeting or title screen, and using a default load-and-run module. These options are set through a configuration menu. Authorized users may be added or deleted by the PILOT manager.

To author, or write a PILOT module, a simple text editor is needed. No text editor is supplied within the *eSTeem PILOT* software package, although public domain or shareware editors (*Diary* or *Steno*) are available. The text editor will need to save text in standard ASCII format, so almost any word processor should also work.

A debug mode is available within the *eSTeem PILOT* shell to help track down the inevitable mistakes in syntax or typing that creep into any module/program. A "dribble" file may be be written to disk. This dribble file lists all text written to screen within the module and any entries by the user. (Once the module is ready, a dribble file may be designated within the module to record responses by the user.) It's a very useful and important option. Error messages may also be written to the screen, if an error occurs within a module.

Overall, the management/authoring parameters of the professional version of *eSTeem PILOT* are quite helpful in organizing and tracking the use of a PILOT module. Those options can, however, be somewhat intimidating to anyone who doesn't need the capability to so exactly manage the *eSTeem PILOT* system.

This brings us to the personal version of *eSTeem PILOT*. These management and control capabilities are not included in the personal-use version of *eSTeem PILOT*. Otherwise, the full power of *eSTeem PILOT* is available.

Summary

eSTeem PILOT lists at $79.95 for the personal-use version; the author asks that potential site-license users contact him for site-license prices. It is a most powerful instructional tool for the ST, well-implemented for educators to create tutorials and computer-based instruction. With the commands available to communicate with the ST's serial port, including a laser videodisc player, an incredible vista of opportunities in device control and laser videodisc interface becomes visible.

eSTeem PILOT appears thoroughly developed and well-designed. The author, Dr. Tom Nielsen, seems committed to supporting and enhancing the language. CD-ROM capability should be available this month (February), at an upgrade cost of $29.95 to registered users. The ST should connect to CD-ROM drives from Atari, Pioneer, Sony, and (possibly) NEC. Nielsen is available on GEnie (ESTEEM) for quick and individual support. (PILOT modules and lessons may be found on GEnie's ST Roundtable: Category 2, Topic 3)

A run-only version of the language (COPILOT) is available so authors can distribute their PILOT modules to others without illegally giving away the original program. PILOT is needed to author/modify any modules used with COPILOT. (For a PILOT demo, see CN ST Library disk #526D.)

At its price for the individual user, the language becomes available at a reasonable cost to anyone interested in an easily learned computer language designed for education. With its site-licensing fees and support, it becomes a viable product for schools and businesses.

I would have preferred to see tutorials within the printed documentation; there are none, but lessons will be available on GEnie. Also, the language would be easier to use if a text editor were part of the PILOT system, but using a desk-accessory text editor within the GEM-based PILOT solves much of this convience. A hard drive will be almost necessary for any extensive authoring, though.

Conclusion

With *eSTeem PILOT*, we see ... ST graphics (medium/high resolution) ... sound ... PILOT core commands ... laser videodisc ... creating tutorials and shaping the learning of students ... individual support ... the opportunities of the RS232 serial port interface ... multi-user configurations ... CD ROM.

```
R: This sub-module will test for a Y (Yes) or N (No)
   Response.
R: IF Y (or Yes or YES), then there is a match.
R: If N (or No or NO), then there is no match.
*YES
M: Y*,y*,N*,n*
TN:Please Enter Y or N
JN: @A
M: Y*,y*
E:

R: ERRORCHK.PLT COPILOT RTC = 9-10772
R: Last Revised: 7/1/90
T: ERROR CHECKING
*bad_statements
T: This module will demonstrate some of the
   error messages which eSTeem PILOT will
   display when it detects errors.
TH:Press RETURN to begin... A: $answer
T: The first error should be "Unknown command"
B: total trash
T: The next error should be "Bad identifier: '&junk'"
A: &junk
T: The next error should be "Bad statement"
12345
T: The next error should be "Name
   'nametoolongforme' too long"
T: #nametoolongformetodealwithinareasonablefash-
   ion
T: The next error should be "Undefined Vari-
   able: 'wierd_var'"
T: #wierd_var
T: Ready for some more? Press <return> when
   you're ready!
A: $answer
T: The next two lines are OK
C: #num1=4+5
T: computed #num1 = 4+5
C: #num1 = (4+5)
T: computed #num1 = ((4+5))
T: The next error should be "Check your
   parentheses"
C: #num1 = ((4+5)
T: The next error should be "Bad (expression) "
C: #num1 = 4+
T: The next error should be "Something's
   wrong left of the '='"
C: junk = 2
T: The next error should be "Where's the '='?"
C: #num1 * 3
T: The next error should be "String in a
   numerical expression"
C: #num1= $answer + 3
T: The next error should be "Bad relational
   expression"
T(#num1:
T: That's all. Let's hope you never see too
   many of them.
TH:<Press RETURN
A:
E:
```

Without a doubt, *eSTeem PILOT* is one of the most important software products to become available for the ST in quite some time.

[eSTeem, Inc., 72 Shades Crest Road, Hoover, AL 35226-1014 Phone: 205-987-9208]

An Interview with Dr. Nielsen

Tom Nielsen, with a Doctorate in instructional technology from USC, is currently with the Dept. of Veterans Affairs (Birmingham) and a member of the IEEE Standards Committee for PILOT.

In an interview with *Current Notes*, Dr. Nielsen noted several practical uses for *eSTeem PILOT*. Several physicians are using the language in hospital education. Also, it's being used in hospital emergency room training, college earth-science programs, CAI, and schools of medicine.

He is particularly excited by the hook-up with a laser videodisc and mentioned "repurposing" of laser discs. (Discs may have been designed for one purpose, but PILOT allows access/control for another audience by selecting only certain frame segments.)

With the Beatles movie, "Yellow Submarine," a "Jeopardy"-like game was developed on the movie's segments and characters. This type of interactive approach holds great potential, Dr. Nielsen stated.

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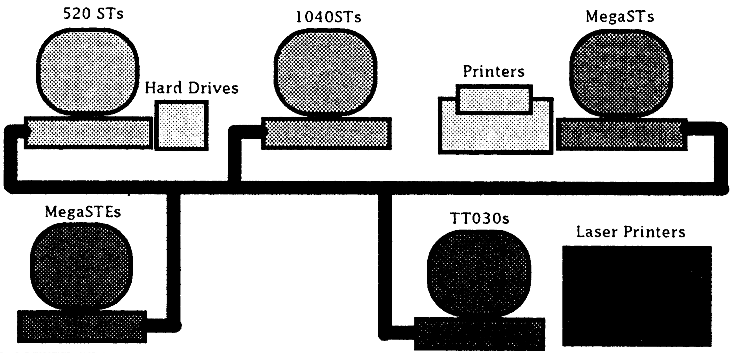

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Stuck in a Rut

by Sam Wright

WARWICK ALLISON PRESENTS

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Words, Words, Words

Have I told you how much I adore words? Morphology, phonology, syntax, grammar, origins, intonation, everything. I love listening to people talk, hearing their accents and how they construct words into phrases and sentences to express thoughts (linguists call this prosody, the melody of language). And how we interpret them to mean one thing, while their intent might be something else. I'm fascinated with parsers, which is why I was obsessed with Infocom games and still miss them. If you parse the statement, "Look at the man with the telescope," how would the computer respond? With graphic adventures, there's no room for that ambiguity. You either see a man holding a telescope or, with a telescope, you look at the man.

All-text adventure games have died. The basis for them, the parser and its composition, still exists in other games, in the form of strategy games like chess and checkers. But there are also word strategy games.

A Scrabble for Scrabble

Recently, I have again become addicted to the crossword game, Scrabble. It's gotten to the point where I lie awake at night thinking of words and their anagrams formed in criss-cross patterns. I wonder if words like *ae* and *aa* exist (they do), and if they do, did a Scrabble player invent them to get rid of his/her nouns? I wonder if the inventor, Alfred Butts, didn't invent Scrabble (then called "It," and then "Criss-crosswords") almost 60 years ago, would I have something to talk about right now?

My sister is to blame for getting me started. She'd been playing regularly with her friends before we started playing, and now we have been playing every week for the past few months. I think it's because I'm the only one who's willing to play for money.

When I first started playing, I thought it would be a cinch. After all, I'd finished *The Fool's Errand* a couple months earlier ("Stuck in a Rut," January/February '91, p. 68) and thought anything would be easier than *that*, what with those killer anagrams and cryptograms. I soon realized, however, that Scrabble games involve much more than simply unscrambling and plunking words down.

Despite my being smarter than my sister (because I'm older than she is) and despite the fact that I have lost more money to her than she has to me, we're pretty evenly matched. Because of this, the games don't really go anywhere. It seems that once you get to a certain level with someone, you stay there. I can't find anyone else who's interested in playing, so I still play my sister while occasionally springing on her obscure words I have found in word-building books and the Scrabble Players Dictionary, which we use to judge all challenges.

A New Opponent: the ST!

Then came the WAACE Atarifest. On display at one of the booths was a Scrabble game in progress, both players played by the ST. An opportunity to play Scrabble with the computer! I finally found another Scrabble companion.

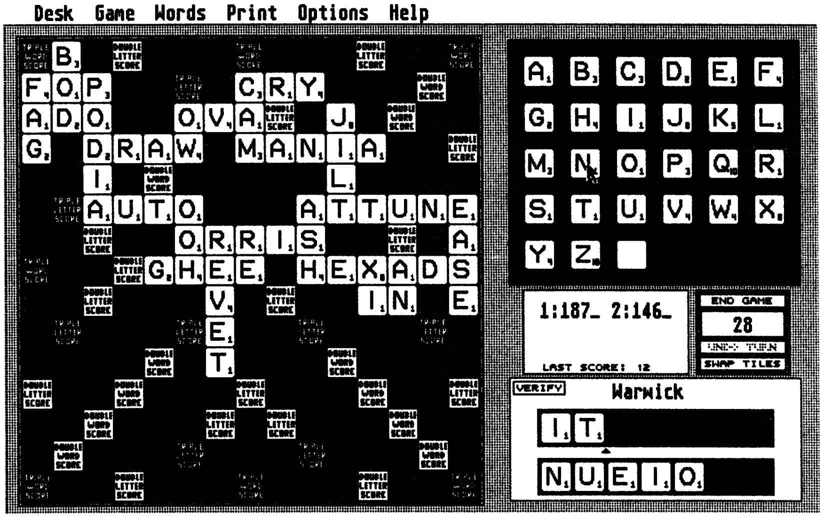
Designed by Warwick Allison and written in FTL Modula-2, *STrabble* is a faithful version of the Scrabble crossword game in every way, except for one thing: because *STrabble* constantly consults a 45,000-word dictionary (which you also have legal access to--Allison writes in the documentation that if the computer can use the dictionary, you should be able to, too), any hopes of bluffing through a challenge or challenging the computer vanish. The computer *knows* what is and isn't a word, so you can't trick it. This aspect is one of the most fun parts of Scrabble but is lost with *STrabble.*

That, however, is my only major complaint with *STrabble.* There are so many positives about this computerized version of Scrabble that they overshadow the one negative.

A Wealth of Benefits

Most of the standard features you would expect in a computerized version of a board game are here, including saving and loading games, saving high scores, and playing with up to five other people or computers (at three difficulty levels). You can also play by yourself, a solitaire form with one rack. If you wish, the computer will automatically verify your words' spellings and point values. At any point in the game, a listing of all the words and their point values that have so far been played can be printed on the screen or printer. A hardcopy of the game board may also be printed.

The *STrabbl*e board takes up the left half of the screen. On the upper right is a graphic representation of all the tiles and how many of each exist, similar to the one in Scrabble; however, this one will also tell you how many tiles have been used--much handier and quicker than searching and counting the board for a letter. Underneath the alphabetical tiles are the computer's and your scores, the last score placed, and the number of tiles remaining. Beneath that, in the bottom right-hand corner, are your tiles.



Main STrabble playing screen. STrabble is available on CN Library Disk #550 and runs in color or mono.

Playing the Game

The *STrabble* parser is excellent and intuitive. Above your tile rack is a blank rack you use to compose words. Arranging and rearranging can be done completely by the mouse or keyboard (my preference). One drawback is being able to see the computer's rack when it's its turn. When you see what the computer has, you have a seven percent advanced knowledge of what isn't in the tile pool. Whether the computer also knows what's in your rack is questionable, but I'm betting that it does (it's a good excuse for losing, at least).

If you're stuck, you can ask the computer for a clue and it will find a word with your available tiles. The clue will just be a suggestion and not necessarily the best or highest-scoring word (do you think the computer really wants to lose?). The way this feature is implemented is a bit lacking: a message will display the word the computer suggests and arrange your tiles accordingly, but then you have to search the board to find where that word will fit. Also, each time you ask for a clue, the same word is suggested. A better implementation would have been to list all the available words possible with point values and highlight where the words could go.

Check the Dictionary!

The dictionary is extensive and filled with all those unbelievable-but-true words (I have yet to find the words *za* and *albert* in any of my dictionaries, including the Scrabble Players Dictionary) that Scrabble is famous for. Editing the dictionary by adding or deleting words is possible, but that doesn't invalidate a word the computer's already put down. For example, if it lays down *rs* and you decide you don't want that in the dictionary, it'll become effective from the time you remove it; the computer won't take back its move (noticeably absent is an undo option. It's displayed but faded, so it'll probably be added to a future version). The best use of the dictionary is the ability to search for a partial word by using the "?" and "*" wildcards. For example, if you want to take advantage of an *x* that's on the board, but all you have are vowels (the *x* is at the top of the board, so you can't form *ax* or *ox*), use the dictionary to search *x?* for a listing of all two-letter words that can be formed beginning with an *x*, or enter *x** for a listing of all words beginning with *x*. You'll find you can use the word *xi* for a cool nine points (hey, it's better than you could have done with all vowels, but then, you should have traded in some of them before or, better yet, practiced rack balancing).

Best yet, *STrabble* is shareware. It only costs the price of a disk and shipping and handling. Allison requests $25 if you enjoy the game--still a bargain.

The Bottom Line

With the rut of ST adventure games growing larger as developers drop the ST from their development plans, *STrabble* is an excellent interim strategy game to sharpen word formation and logic skills. Who knows, if I'd been playing *STrabble* before I tackled *The Fool's Errand*, maybe it wouldn't have taken me two months to complete it and maybe I wouldn't be so far in debt with my sister. *STrabble* definitely helped my Scrabble games. It taught me new words (albeit words I would never use other than in a Scrabble game) and how to be a better player by using defensive as well as offensive strategies (shoot for a closed game and force the other player to open it back up for you). So, why is my sister still beating me?

[*STrabble*, shareware by Warwick Allison (a $25 donation is requested if you like it and play it often, and believe me, you will), runs on all 1-meg Atari STs. It can be played from a hard drive, taking up a measly 600K (mostly for the 45,000-word dictionary). Version 2 October 1991 was reviewed. *Current Notes* stocks it as disk #550 for $4 plus $1 shipping and handling. Check out the ST Library department.]

(More) Tetris, Anyone?

by Steve Hoffee

Okay, for you fanatics who didn't get enough 8-bit *Tetris* in the July *CN*, we'll have a go at it one last time. Since this Russian-born game hit American shores a few years ago, it has become a craze everywhere. It seems everybody has jumped on the bandwagon, from (pardon my language) Nintendo, Apple, Commodore, IBM, and Tandy, to our superior 8-bit Ataris (no prejudice here!).

Of course, the object of *Tetris* is to manipulate differently shaped objects to form a solid line at the bottom of the playing area, thus clearing that line from the screen. After a certain number of lines are completed and cleared, you can move on to the next level of play. There are many versions of *Tetris* available, but this review deals with just two of them: *Fortress* and *Atartris.* I used a 130XE and a 1050 drive, but these programs should work fine with any ATARI 48K computer and disk drive.

Fortress Ver. 2.0

Written by one Zark Wizard, *Fortress,* upon loading, presents you with a very good title screen almost assuring you of more good graphics to come. By pressing START you go to the Options Menu which gives you the choice of: 1) Play, 2) Choose Music, or 3) Game Options.

This screen also shows promise of more good graphics to come. The options are easy to understand and change. The Choose Music option allows you to choose one of three song titles that will be played during the game. You also have the Music Off option, which I preferred due to the monotony of the music.

There are six game options available:

- Controller Type (joystick or keyboard).
- Starting Level (1-9), with 9 being warp speed.
- Block Height (0-9). This puts blocks on the bottom of the screen from 0 to 9 lines. When this function is activated it leaves gaps in the lines which can't be filled, therefore it isn't recommended unless you enjoy punishment.
- Next Object (hint area ON or OFF)
- Clear Hi-Scores
- Sound Effects (ON or OFF). Sound is automatically off when music is selected.

The playing screen consists of a Playing Field (on the left half) and a Hint, Score, Lines Completed, Level and all available objects screen on the right. The graphics on this screen were a little disappointing, compared to the first two screens. I use a TV, rather than a monitor, which tended to make some of the smaller lettering bleed together. At the bottom of the playing area you have the options to PAUSE, QUIT or LINES. The latter puts white vertical lines on the field for easier alignment of the objects. Although this option does come in handy, it is somewhat distracting. It would have been better having the lines light grey so they wouldn't stand out so much.

As for playability, *Fortress* is fun and very challenging at the higher levels (if you get there). The objects that appear on the field are displayed, and kept account of, to the right of the playing area. The numbers next to the seven objects show how many times that object has been used. You also get a 200 point bonus every time you clear a line. Overall, I enjoyed this game and its features. The author obviously devoted considerable effort packing every feature he could into this game. The program is shareware and is certainly worthy of a contribution to the author. It's also worthy of a place in your library if you're a *Tetris* fan. I'd give this game a B- as an overall grade.

Atartris Ver. 1.01

Programmed by Steve Budrys, this game can in no way be compared to *Fortress.* While it lacks *Fortress*'s flashy title screen and options menu, it makes up the deficiency in versatility, playability and ease of use.

Atartris's Options Menu is completely joystick-driven and is so simple a child can easily make all of his/her choices (provided he can read). I tested this with four sixth-graders (thanks Stefanee, Nicole, Meghan and Sarah!), and they got several levels further into the game than I had expected. They especially enjoyed the fact that they could play each other (in two-player mode), with the first one completing nine lines getting the bonus before they moved on to the next level.

This game, at level A, starts out slow and then progressively speeds up at the completion of each level. There are 26 levels, making this a game for all ages. When a level is completed, the entire playing area is cleared before you start the next level—a most rewarding feature. The Options Menu contains a number of features to customize the game to your own personal taste. Also included are instructions on how to use a different font and configuration setup which will load upon booting (however, I found the menu to be so simple and quick that these weren't really necessary).

The Options Menu consists of:

- Play The Game Already
- 1 or 2 players
- Singles are OK (not OK)
- All Pieces Rotate (most, some ,few or none)
- Alignment Guide (OFF or ON)
- Start at Level A-Z
- Preview one piece (none, 4, 3 or 2)
- Pieces Rotate Clockwise (Counter-Clockwise)
- View Hi-Scores
- About "Atartris" (a brief note and acknowledgements to friends, along with ways to get in touch with the author).

The game options menu alone offers a lot more than most *Tetris* clones. Being public domain, the price is irresistible and a "must have" for any gamer. I was going to give this game an overall grade of B+ until a friend of mine sent me *Atartris II* over the modem last night (thanks, Craig)! The new features now include:

- Permanent Hi-Score file
- Two-Player Cooperation Mode (where you work together rather than compete)
- Lines-To-Go Display
- Lines-Completed Display
- High Score (Includes Lines and Levels)
- Structure Height Bonus
- Bonus For Clearing Board
- Second Player Join-In Feature (a second player can join in at the beginning of any level)
- Scoring Multiplier

With all these additional features, I'd have to give *Atartris II* an A. (If it had flashy graphics I'd rate it A+). I've asked a number of people which *Tetris* clone they liked best, and without exception, the answer was *Atartris* (now it's *Atartris II*). Until next time, keep your eyes on the monitor and your hands on the joystick (sung to the melody of "Roadhouse Blues" by The Doors)!

Fortress and *Atartris* are available from Sagamore Software, 2104 Arapahoe Dr., Lafayette IN 47905, on their Game Disk #81 (along with *Zybex* and *Tetrix*) for $3.00 plus a $2.00 handling fee for orders of less than ten disks. (The disk contains .DOC files for the *Tetris* games but not for *Zybex*.) *Atartris II* is available from MAPDA-USA Branch (333 Peninsula Dr., Lake Almanor CA 97137) on Disk #403 for $3.50 including postage if you order just that one disk. All three of these games are also available from the library in the ATARI8 RT on Genie; the file numbers are: *Fortress* - #4878, *Atartris* - #4910, and *Atartris II* - #5271.

■■■■■■■

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An Atari 8-Bit Wedding

by Ed Hall

First we had the kids, then we bought a house, and finally, we got married. In keeping with this unconventional approach to life, I decided to forego the more usual "engraved" wedding invitations and make our own. Naturally, I turned to my Atari 8-bit for help.

I dismissed *Print Shop* right away. Not only did I want something with a bit more pizzazz, I also wanted to incorporate in the card a picture of the kids, a picture produced by the image-scanner *Easy Scan II*. I experimented with two graphics programs, *Magniprint* and *Picture Plus*, and two publishing programs, *Page Designer* and *Typesetter*. All were able to combine text with the scanned image and provide decent output, but I went with *Typesetter* because I liked the degree of control it gave me over the page surface.

But wait a minute, you say. *Typesetter* can be used to make flyers and newsletters, but not cards. Wrong! I designed the "card" to take up exactly half a sheet of regular 8-1/2 x 11 paper. This required the use of scissors, but at the same time gave me two cards per sheet of paper. The unfolded size of the cards was 8-1/2 inches across the top and 5-1/2 inches high. I centered the message in the middle portion of the card and bracketed it with two vertical creases about 2-1/4 inches in from each end. This created two wings or flaps, which folded over like window shutters and met in the middle. As a finishing touch I secured the overlapping ends with a mailing label to act as a seal. I used the *Designer Labels* program from *ANTIC* (Dec. 1987) to print on the label the name of the person the card was going to, along with an appropriate Print Shop icon (a pair of newlyweds, of course!). The final size of the cards was the same as those produced by *Print Shop*, which ensured they would fit into their envelopes just fine.

Home-made cards often use colored paper and envelopes but overlook the fine effects you can achieve using markers and colored ink ribbons. Our wedding invitations used pale blue stock with matching envelopes; the seals were a darker blue. The cards and seals were printed with black ink. The mailing labels for the envelopes were the transparent variety and done with dark blue ink. After the wedding, we sent out more conventional cards (produced by *Print Power*) done on pale grey paper highlighted with a pink marker and enclosed in pink envelopes.

The final touch was in the mailing labels themselves. I used a public domain program called *Dot Magic*, a variant of Roy Goldman's *Daisy-Dot* print processor. *Dot Magic* uses the same fonts and achieves the same fine results as *Daisy-Dot*, but it also incorporates a very handy program to make labels. The font I used had the unassuming name of "Plain," but its simple elegance was perfect for the effect I wanted.

All tolled, we sent out just over 100 cards. Not only was it great fun, but also very satisfying to send something to our friends which was personalized and ijhome-crafted" for this important event.

Program Notes

Easy Scan II—*Easy Scan* is the only image scanner for 8-bit Ataris. It was reviewed in the Oct. '88 issue of *ANTIC*. *Easy Scan II* may be purchased from Innovative Concepts, 31172 Shawn Dr., Warren MI 48093 for $99.95. *Easy Scan* owners can update to *Easy Scan II* software for $20.

Publishing Programs—For a review of 8-bit publishing programssee the June/July 1990 issue of *ANTIC*.

Magniprint—Reviewed in the Jan. '89 issue of *ANTIC*. Available from Alpha Systems, 1012 Skyland Dr., Macedonia OH 44056. $24.95.

Picture Plus—Reviewed in the Nov. '88 issue of *ANTIC*. (Formerly) available from Antic Software, 544 Second St., San Francisco CA 94107. $19.95

Daisy-Dot II—This PD program was reviewed in the Jul '88 issue of *ANTIC*. A newer version, *Daisy-Dot III*, became available as shareware in 1990. Registered versions are available for $20.00 from Roy Goldman, 2440 South Jasmine, Denver CO 80222.

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Tricks and Treats for WordPerfect Lovers

A Useful Tool Becomes More Useful

by Milton Laughland, Jr.

Classy but Overwhelming?

WordPerfect (*WP*) stands as one of the computer world's premier word processing programs. Most *WP* users have learned enough basic *WP* to produce a usable document. However, many users become so overwhelmed by *WP*'s power that they fail to fully use its features. In addition, the manual isn't very thorough, as witnessed by all the *WP* "how to" books on the market. Having spent a lot of time using *WP*'s 5.1 DOS and ATARI versions, I'd like to share my explorations of *WP* to help you expand your *WP* universe.

I've used the following conventions: [CTRL] = Control key (all keys are indicated within brackets), [ALT] = Alternate key, and [RETURN] = Return/Enter keys. Letters used for functions are capitalized, but capitalization is not required when using *WP*. The slash mark (/) between two keys (e.g., [CTRL/F10]), means to press *both* keys at the same time.

The instructions given below are for the keyboard and not the mouse so that any *WP* user can benefit from this article. Also, you can type faster when you don't have to keep reaching for the mouse.

Upgrade

First, if you haven't upgraded your *WP* to the 4/18/91 version, call *WP*'s Orders Department at 1-800-321-4566 and request the upgrade. Have your *WP* license number and credit card number ready when ordering.

Upgrading *WP* costs around $12.50 plus shipping. The upgrade contains a new *WP* disk, a new Speller Disk, and four Print/Font Disks:

Disk #1—Dot Matrix, Daisy Wheel, and Ink Jet Printer drivers;
Disk #2—Laser Printers;
Disk #3—Postscript Printers; and
Disk #4—Limited Support Printers.

WP's previous revisions were 8/1/88, 7/31/89, 11/1/90, and 12/6/90.

Macros

A Macro records and saves key strokes (text and function keys) to replay later. This powerful tool saves time and avoids errors during repetitious actions.

Creating a Macro is easy. Press [CTRL/F10] to begin defining the Macro. Name the Macro by typing a word consisting of one to eight letters (for example, "test") and [RETURN]. Alternatively, you can name your Macro by pressing [ALT] and a letter (e.g., [ALT/A]). With this method, when you hit the [ALT/A] key combinatyion, your Macro will be executed.

After naming the Macro, carry out the steps to be recorded. When you have completed the action and/or entered the text to be saved, end the Macro by pressing [CTRL/F10] again. It's that simple!

If you make a mistake while entering text or functions into the Macro, go ahead and correct it. The Macro will also remember the corrections.

Macros work great for frequently used names. For example, you could create a Macro named "GSA" to insert the name *General Services Administration.*

Macro Pause

The Macro Pause [SHIFT/ESC] feature stops the Macro to allow you to insert new text, initiate a function, move the cursor to a new location, and so forth. You can use the Pause feature to create a form letter that will stop at designated spots for the insertion of new information. Try the following example:

1. Press [CTRL/F10], [ALT/T]. ([ALT/T] is the Macro's name.)
2. Type the following expression (don't type the quote marks): "*Please send copies to* ".
3. Press [SHIFT/ESC] to insert a Pause.
4. Press [RETURN] to end the Pause.
5. Finishing typing the text: " *in order that they are aware of our actions.*"
6. Press [CTRL/F10] to end the Macro.

Note that any key strokes you enter between the [SHIFT/ESC] and [RETURN] are not recorded.

Pressing [ALT/T] automatically executes the Macro and enters the text but stops after "to" with an audio "ping." Enter someone's name and press [RETURN]. The Macro now finishes the rest of the text. There's no limit to the number of Macro Pauses.

A Moving Experience

Create the following Macro to move a block of text from one area of your document to another.

1. Load a file containing text.
2. [CTRL/F10], [ALT/M]] (Start defining your Macro, which will be activated by pressing [ALT/M].)
3. [ALT/F4] (Turns on the Block feature)
4. [SHIFT/ESC] (Move the cursor to define a block of text to be moved, then press [RETURN].) (This step inserts a Pause in your Macro to allow you to define a block to be moved. [RETURN] turns off the Pause and continues the Macro.)
5. [CTRL/F4], [1] (Cuts the blocked text out and saves it in a buffer.)
6. [SHIFT/ESC], [RETURN] (Inserts another Pause to allow you to move the cursor to where the blocked text is to be inserted. [RETURN] turns off the Pause and continues the Macro.)
7. [CTRL/F4], [5] (Pastes the blocked text into the new location.)
8. [CTRL/F10] (Turns the Macro off.)

To try out your new Macro, place the cursor at the beginning of a block of text to be moved and press [ALT/M]. Now move the cursor to the end of the text you want to move and press [RETURN]. The text disappears. Move the cursor to the new location and press [RETURN]. The text appears once again. This simple Macro will save you key strokes and reduce hand movement over the keyboard.

Editing Macros

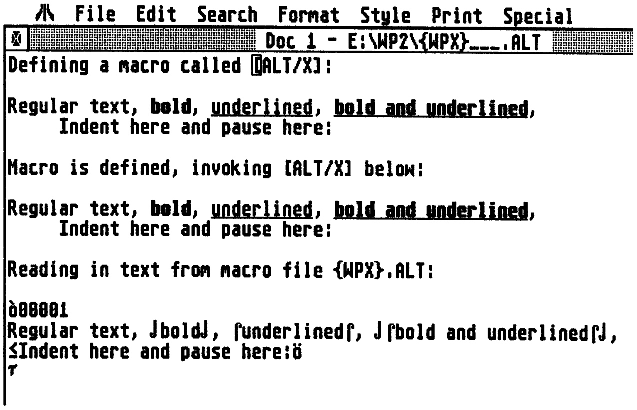
Have you ever created a Macro containing a lot of text only to find out later you misspelled a word? Don't start over! You can edit the Macro right in *WP.* Press [CTRL/F5], [1] (Text In/Out—Retrieve Text File), and select the Macro's name, which retrieves the Macro file as a text file. Once on the screen, the text can be changed. Don't delete the symbols unless you understand what they represent. To save the changes, press [CTRL/F5], [2], [RETURN], and [Y].

Macro Symbol Codes

You may want to change other elements of the Macro, such as bold or underlining. To make these changes, you must understand the symbol codes. I created a simple macro containing text with regular, bold, and underline attributes. The macro also contained an line indent and a pause to demonstrate these symbol codes. The accompanying illustration shows the creation of the macro, its execution, and the importing of the macro text file (I named my macro [ALT/X] and the macro text file was called (WPX).ALT). By examing the macro text file, you can see the imbedded function symbol codes.

See the symbol before and after the word bold? The symbol activates the bold and when appears again, it tells *WP* to discontinue the bold. J

To insert these symbols into a Macro, press CTRL/F3 (Screen), 2 (CTRL/ALT Mapping). In the

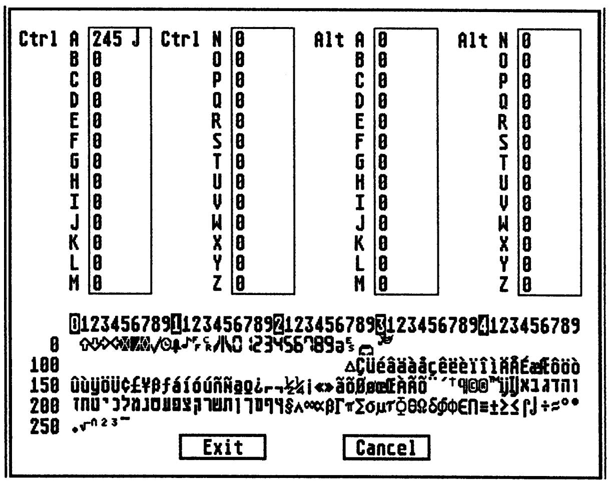


```
Defining a macro called [ALT/X]:

Regular text, bold, underlined, bold and underlined,
     Indent here and pause here:

Macro is defined, invoking [ALT/X] below:

Regular text, bold, underlined, bold and underlined,
     Indent here and pause here:

Reading in text from macro file {WPX}.ALT:

ò00001
Regular text, JboldJ, ſunderlinedſ, Jſbold and underlinedſJ,
≤Indent here and pause here:ö
τ
```

lower half of the screen, you'll see a row and column of numbers bordering a set of symbols (see figure 2).

The top numbers represent 0 to 49. The numbers on the left indicate the number beginning on the next line. Each symbol has a unique number from 0 to 255.

The symbol for bold is J and is located in row 200 under the 45th column, making J the 245th symbol. For this example, click on the 0 next to [CTRL/A] to highlight a box. By clicking on the J symbol, the number 245 and the J symbol will appear in the [CTRL/A]'s box. If you already know the symbol number, you can just insert the number in the [CTRL/A]'s box. To clear the [CTRL/A] designation, click on CTRL/A]'s box, press 0, and [RETURN].



```
Ctrl A 245 J  Ctrl N 0       Alt A 0       Alt N 0
     B 0           O 0           B 0           O 0
     C 0           P 0           C 0           P 0
     D 0           Q 0           D 0           Q 0
     E 0           R 0           E 0           R 0
     F 0           S 0           F 0           S 0
     G 0           T 0           G 0           T 0
     H 0           U 0           H 0           U 0
     I 0           V 0           I 0           V 0
     J 0           W 0           J 0           W 0
     K 0           X 0           K 0           X 0
     L 0           Y 0           L 0           Y 0
     M 0           Z 0           M 0           Z 0

      01234567890123456789012345678901234567890123456789
  0    ⇧⇩⇨⇦       √ ♪      0123456789
100                                 ΔÇüéâäàåçêëèïîìÄÅÉæÆôöò
150   ûùÿÖÜ¢£¥ßƒáíóúñÑªº¿⌐¬½¼¡«»ãõØøœŒÀÃÕ¨´†¶©®™ĳĲאבגדהו
200   זחטיכלמנסעפצקרשתןךםףץ§∧∞αβΓπΣσµτΦΘΩδ∮φ∈∩≡±≥≤ſJ÷≈°•
250   ·√ⁿ²³¯
```

Click on [EXIT] to return to the main screen. Now insert the bold symbol in the Macro by pressing [CTRL/A].

To save any symbols assigned to a [CTRL] or [ALT] command, be sure to exit *WP* to the primary disk or directory containing *WP*'s SYS file.

Another method of inserting symbols directly into a Macro or regular text is by pressing [CTRL/V] (Literal Value) and typing the symbol number. The table on the next page shows some symbol numbers for various functions.

Various WordPerfect Functions and Their Symbol Numbers

Bold	245	Underline	244
Pause	148	Indent	243
end of Macro	231	[SHIFT/F3]	176
[SHIFT/F1]	189	[CTRL/F4]	187
Right Flush	181	Center	228
[CTRL/F8]	166	[SHIFT/F8]	179

Printing Symbols

Various symbols can also be printed in a document. First, print out the FONT.TST file located in the Learn *WP* disk. These are the symbols available from your printer. The printout will look similar to *WP*'s symbol map with numbers on the top and to the left. The printout symbols may not match the *WP* symbol map but they take priority over the *WP* symbols. For example, *WP's* symbol-133 produces à on the screen and in *Current Notes* but my Panasonic 1091 prints a small superscript ^{0} degree mark.

Now insert the desired FONT.TEST symbol into your text using either the mapping screen or the [CTRL/V] feature.

Merge Pause

Though you can use a Macro with the Pause feature to create a form letter, you can also use a feature in the Merge Function.

First, create a form document or open an existing document. Now press [CTRL/C] (-) where text should be inserted, e.g., "Dear -: We have not received your payment in the amount of -."

Now save the file under the name "merge" and clear the screen. Press [CTRL/F9] and enter the primary file's name (merge). When asked for a secondary file, just press [RETURN].

The document will appear on the screen with the cursor located where you inserted the first "-." Now enter the appropriate text. Press [F9] to move the cursor to the next "-" code. When finished, you must name the new document. To view other available codes, such as inserting the date or invoking a Macro, press [ALT/F9]. The Merge feature allows for easy document editing versus the mess of editing a Macro file.

Directory Hints

- When Listing Files from the Directory [F5], type the first few letters of the file name and *WP* will scan to the first file beginning with those letters. For example, when I press [F5] and type WORD, *WP* scans down until it comes to the first file name beginning with WORD. Press [RETURN] and [1] to load the file. You don't have to type the entire name, just the first few letters to scan down to the immediate neighborhood.
- Tired of deleting, copying, or printing several files one at a time. Place an "*" next to several files and *WP* will delete, copy, or print those files.
- Word Search can be restricted by placing the "*" next to the files you want searched. After searching, *WP* will retain the "*" next to the file(s) containing the searched word.
- The current *WP* upgrade allows moving up or down the text in the Directory's Look feature ([F5], [6] or [RETURN]) using the ARROW and HOME keys.

Punc-tu-a-tion/Gram-mar Check-er

Checking punctuation and grammar on a computer screen can be difficult. Use the Search feature to help proofread. For example, press [F2] and two spaces to check for double spacing between words. If the cursor stops in the middle of a sentence, one of the two spaces should be removed. You can also check the spacing after a period, comma, colon, or semi-colon by pressing [F2] and the punctuation mark.

Proofread by searching the text for your most common mistakes, e.g., its/it's, verb tenses (is/are), or capitalization at the beginning of sentences (search for a period and two spaces). The Search feature takes your eyes to potential trouble spots.

Blocking

- In addition to using the ARROW keys to define a block of text, you can also use the space bar, RETURN keys, punctuation marks, symbols keys (top row of keys w/numbers), or the Search Feature [F2].
- Blocked text can be converted to upper or lower case by pressing [SHIFT/F3] and selecting upper [1] or lower [2] case. When converting to lower case, *WP* keeps the first letter of a sentence capitalized if you start the block on the previous period. Of course, all words within the sentence requiring capitalization will need to be changed manually.
- Blocked text can be spell checked, word counted, or printed.

Tricks and Treats

o If the mouse device is absent (off hunting cheese chips), use the [ALT/arrow] keys to move the mouse arrow and [ALT/insert] to move the cursor to the arrow's location. The [ALT/arrows] and [ALT/insert] can also be used to view the menus on top.

o Need to change text to both bold and underline? Block the text [ALT/F4] and press [F6] (bold). Now press [CTRL/HOME] twice (automatically returns the cursor to the beginning of the previous block), activate Block [ALT/F4], press [CTRL/HOME] twice again (automatically moves cursor to the end of the previous block), and press [F8] (underline). A Macro would work great here!

- Besides the page number positions available from [ALT/F8], page numbers can be placed anywhere in the text by pressing [CTRL/B]. Use [CTRL/B] to make sequentially numbered tickets, membership cards, numbered labels, etc.
- To modify an outline, you must first turn on the Outline feature [ALT/F5], [1].
- Four documents can be on the screen at the same time. However, it's easier to work with two documents on a split screen when copying or moving text between the documents.

To split the screen into two windows, open a second window [SHIFT/F3], [5]. Using the mouse (sorry DOS lovers), move the lower right corner box up halfway. Grab the entire screen from the top and move it to the bottom half of the screen. Now switch to screen one [SHIFT/F3], [1] and reduce the window to the upper half of the screen. Wow, wouldn't a Macro work great here, too!

- When using compressed or proportioned fonts, remember that each letter takes up a different amount of space, e.g., "m" requires more space than "i" (look at *Current Notes*' text). When setting up two lists side by side, consider using the Flush Right feature [ALT/F6] instead of TABs for the list near the right margin. Flush right measures from the right margin and disregards the text and spacing to the left.

Three alternatives are: columns [ALT/F7], Table of Contents [ALT/F5], or Tab Align option [CTRL/F6].

- Press the HELP key for a quick review of *WP*'s features. Type the letter "A" and start reading. Keep pressing the next letter until you've gone through the alphabet. Keep the manual nearby to get the details of those options of interest.
- Ever start printing a long document to suddenly discover the wrong margin, print style, or whatever? It takes three steps to stop printing. First, press [SHIFT/F7], [3], [C], and [1] to cancel *WP* from sending the rest of the document to the buffer. Second, bring down the Atari menu (far left) and click on *WP* Print Spooler, CLEAR, and OK to empty the buffer. Finally, click the printer's off/on switch to clear the printer's buffer if it has one.
- When text acts strange on the screen or when printed, the problem most likely can be found in the Reveal Codes screen. For example, you inserted a new font but the footer prints out in the old font. You probably placed the new font code after the footer code. Only in Reveal Codes will you see the mistake.
- Does your *WP* ever ask you for the "Virtual Directory" and you don't know what it's talking about? See page 547, 2nd paragraph, in your manual.
- If stray marks appear on the screen after viewing the Directory, click the upper right-hand box to refresh the screen.

Swapping IBM/Atari Text

Format a disk on an MS-DOS system to 720K or use the public domain program on *Current Notes*' #567 or *ST Informer's* #391.

- Atari to IBM: Save the Atari file as a 4.2 IBM *WP* file [CTRL/F5], [6]). *WP* DOS 4.2 should easily load the file while the *WP* DOS 5.1 will convert it into 5.1 with all the underlining, bold, and the other imbedded codes. I'm not sure how well DOS loads the Atari text file [CTRL/F5], [2], or IBM text file [CTRL/F5], [8] format.
- IBM to Atari: Convert the *WP* DOS 5.1 file to DOS 4.2 or as a DOS text file. The *WP* DOS 4.2 can be saved as a 4.2 file or as a DOS text file. Load the file using [CTRL/F5], [5] (*WP* 4.2), [1] (DOS text file), or [7] (IBM text file).

WP Magazine

WP has a magazine, which is sold in stores or by subscription ($18 a year). The current issues deal mostly with *WP* 5.1, but back issues contain articles and tips on 4.2. Also, books on *WP* 4.2 can also be of service.

Conclusion

I cannot emphasize the value of using Macros to carry out frequently used actions. I have almost 100 Macros to carry out various functions, such as calling up frequently used files and directories, setting up double columns, splitting the screen, setting page numbering, form letters, and inserting numerous agency and business names saved under their acronym (GSA, FAA, NIST, ML for Milton Laughland, etc.).

Time and space do not allow me to cover all of *WP*'s other features, such as outlining, table of contents, merging documents, columns, etc. After you've learned the basics of *WP*, go back and read the manual again. Explore *WP*'s wonderful features. The time and effort saved in creating quality documents will be your reward.

■ ■ ■ ■ ■ ■ ■ ■

Correction: Michtron Exists!

In our December '91 issue, the "Junkyard Pussycat," in discussing the aftermath of the 1991 WAACE Atarifest said: "A number of the developers who were at the 1990 WAACE show did not appear in 1991. Some, like Michtron, had slid off into bankruptcy." In fact, Michtron does, indeed, still exist, although it is under new management. If you check page 7 of that issue, you will see an advertisement for Michtron's *3-D Calc Spreadsheet.*. Anyone wishing more information on Michtron or Michtron products can contact them directly: Michtron, 3201 Drummond Plaza, Newark, DE 19711. (302) 454-7946.

How to Run a Profitable Atari Dealership

An Interview with John Morrison

By David Biow

Betting the Farm

What's going on here? Just when the smart money was betting that Atari retail outlets would disappear from the U.S. scene, John Morrison went contrary to conventional wisdom and opened up an Authorized Atari Dealership in Orlando, Florida. While Atari dealers all over the country were closing down or converting their stores to flower shops, John decided to bet the farm on Atari. And he's been doing rather well, thank you!

How come? Does he know something that other dealers don't, or has he just been lucky? We had to ask, and he told us:

John: I'd been a technician for several years for an excellent local Atari dealer: McDonald's Computer Center. Local support for Atari fell drastically in late 1989, and the store had to close in the spring of '90. I bought out the service side of the business—including the test equipment—and finally qualified as an authorized dealer. I opened Morrison Computers in space rented from Downtown Sound, a large musical instrument retail store.

CN: *Okay, there's a big saving on cost of operation, compared to a typical Atari retailer: you don't have to employ a repair technician.*

John: Correct. I have the skills. I hold a degree in electronics, and I've spent the last 18 years as a professional musician, which today has come to mean competence with MIDI (Musical Instrument Digital Interface). I developed the electronic expertise needed to hook up and modify new gear, repair it on the job, and to design something new that will attract the public to our band. I've been active in MIDI since its inception in 1983.

CN: *What instrument do you play, John?*

John: I'm a drummer. I built an all—plexiglas, fully MIDI custom drumset in 1986, and I've been playing it ever since. I trigger 16-bit samples, which I create and then edit on a 4-meg Atari with Sound Designer software. It was this sample-diting capability which originally attracted me to the Atari in 1986.

CN: *Aren't Macs more common in music studios?*

John: Sure, but the cost of the Mac system and software is too high for the average working musician to justify. And if he does go with the Mac, he has to live with the its tiny screen, its slow drives, and its preposterous upgrade and repair charges. The Atari is unquestionably the best choice for the average working musician.

CN: *OK, there's another distinction between your store and the average Atari outlet: you've situated yourself where musicians tend to congregate.*

John: Absolutely—buying new guitar strings, having electronic equipment tweaked, and so on. I can demo the Atari on their own equipment, and I can speak their language . . .

CN: *Are you saying that, to make money selling Ataris, you have to be an electronics expert and a musician?*

John: Not necessarily, but you must have something to offer besides personal enthusiasm and a lot of Ataris on shelves. If you don't, you end up in price competition with mail-rder houses, making maybe 5% on your investment, or 10% if you are lucky. I can charge more than the mail-rder houses, because I stand behind what I sell for a year from the date of purchase. Musicians especially don't want to wait weeks for repairs from an out-of-own depot.

CN: *Do you repair all Ataris?*

John: Absolutely—I'm authorized, and I have several year's experience repairing all Atari products. I do custom and repair work on Ataris whether they are owned by local residents or shipped to me from out of town. I think that being repair-oriented is another reason I've been successful. The profit margin on repair work is inherently higher than that of sales. I'm also an authorized repair center for a number of manufacturers of electronic musical instruments and P.A. equipment.

CN: *Okay. The main difference between your operation and a conventional Atari dealer is (1) you are repair-oriented, (2) you are located where the walk-by traffic consists primarily of musicians, and (3) you offer the option of extended warranties.*

John: And (4) my overhead is lower than most. Downtown Sound provides me with space at a comparatively low rental, and I do repair work for them. I think I've found a niche: I'm the only thing standing between my 2000+ customers and a switch to a PC clone.

CN: *You make that sound like a fate worse than death. Let's be realistic here: who in the world would prefer an Atari ST to an 80286 clone?*

John: Almost anyone with no previous computer experience. The 80286 was obsolete almost before its inception. The Atari ST with its support microprocessors compares more closely in overall performance with the 386SX. The ST stands out as an elegant machine even after six years and that's an eternity in the computer world. The PC has been out for 10 years and only just now is it developing a graphic interface as simple as the ST's desktop.

CN: *But they have done it* with Microsoft Windows.

John: Sure, but how? To utilize that interface, you have to have DOS to begin with, gobs of memory and disk space, an extremely fast processor, and a degree in computer science to configure the thing. One of the reasons that the ST does so well in Europe is that the Europeans, being new to computers and ignorant of IBM hype, are making their choices based on the power/cost factor of competing machines. This also explains the success of the ST line with musicians. Most of them (including me!) had never touched a computer before. We had no preconceived ideas about IBM or other brand names. We looked for the same thing we always looked for: lots of performance for the least amount of money.

CN: *I always thought musicians were big spenders.*

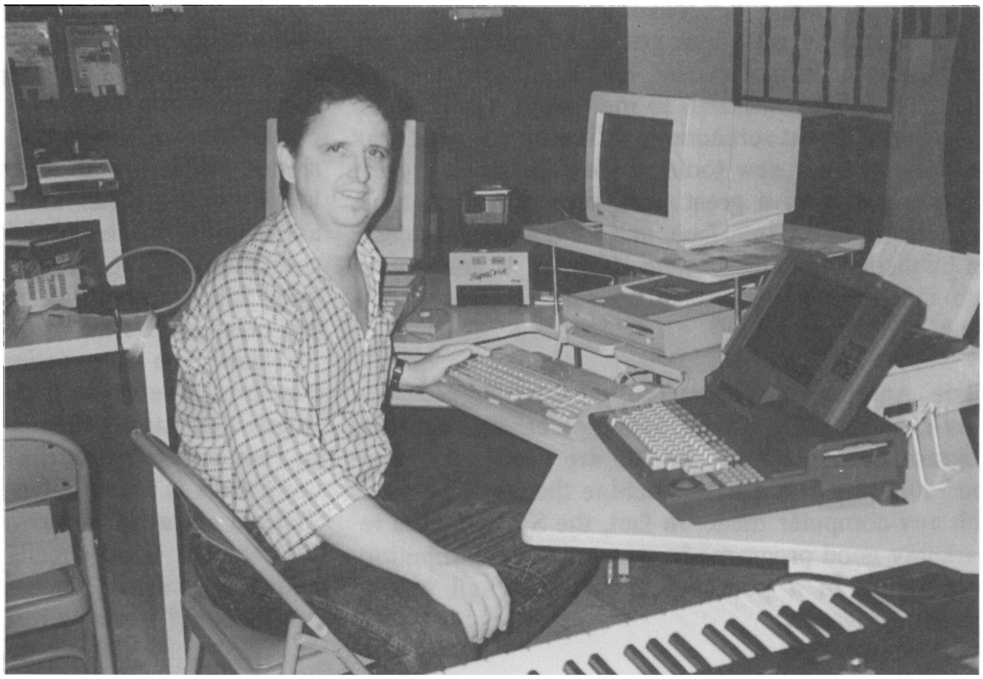
John: The big names, maybe. But the average club musician is making the same salary as ten years ago. Money is tight. We couldn't care less about the relative prestige of various brand names. We do care about performance and short learning curves; most of us don't want to become programmers. If you buy a hammer, you just want it to pound nails—you don't want to learn how to design one.

CN: *Then musicians, as computer users, have a different attitude than the rest of the market.*

John: No, their attitude is similar to that of all businessmen: they want a computer for immediate productive use. The typical consumer enthusiast, however, enjoys features that don't necessarily relate to immediate commercial productivity: pixel size, processor speed, addressing range, the ability to run 12 applications at once, or minute technical enhancements. These aspects take on more importance to some users than the content of the letters they are writing or the data they are sorting.

CN: *Techies . . .*

John: Yes. It's as if they enjoy the complexities of the interface. Not me. I don't want to read instructions; I just want to use the darn thing. The U.S. is still mired in MS-DOS. Until that burden is lifted, DOS-based machines will continue to intimidate new users. Just imagine what the ST market would have been if it had been built around the old 8-bit Atari OS. Great hardware needs great software, and MS-DOS is not great software. The new breed of PCs provide a poor operating system running very fast, like a Ferrari engine in a Model-A Ford frame. No! I take that back; model-A Fords were built great.



CN: *That's all very well, but it takes software applications, not interfaces to sell hardware. Atari has a weak record when it comes to getting the big American software houses to write applications for the ST. It was Lotus 1,2,3* that put the PC over. *Microsoft Excel* did a lot to make the Mac a success. Where is new software for the ST supposed to come from?

John: Europe will be the primary source of great new software for the ST, at least for the next couple of years. We Americans are not as open-minded as we would like to think. We'll stick by MS-DOS even if it kills us. I honestly think that, if Atari or any other manufacturer were to develop a computer 100 times more powerful than anything out there now and priced it under $1,000, Americans would still want to know if it was IBM compatible before they bought it. Seriously though, I think American software developers will start producing for the ST as soon as Atari starts advertising.

CN: *Suppose, for the sake of argument, that doesn't happen, and the Atari goes the way of the Osborne and the Betamax. Will you still repair STs, even if Atari goes belly-up?*

John: Just as long as I can find parts, and that should be possible for quite a while. There are still repair centers advertising repairs and parts for the old PC-Junior!

If you need to have your ST repaired, customized, or upgraded, or if you'd like to purchase a new or used ST with a solid, extended warrantee, call John at (407) 649-8733. Or write to him at Morrison Computers, 311 West Robinson, Orlando FL 32801.

If you're going to keep flying Atari, you might as well travel first class!

Why Atari?

A Diehard User Tells Why Atari Is The Best

by Bill Yerger

The Oft-Asked Question Are you ever asked this question, the one I hear most often from non-Atari owners. Sometimes I even hear it from Atari owners. After all, it seems the whole world is moving toward MS-DOS machines or Macs. I have given a little thought to the issue, "Why Atari?" and hope my conclusions might be of interest.

The first and most important thing I like about my ST is the operating system. It's built in and to me it seems everything works the same way, much more than it does on a Mac. GEM is definitely more congruent than Windows on IBM compatibles. Software usually costs less, too. What really impresses me is the reliability of my Atari hardware. I'm on my second Moniterm monitor, but I have been using the same Mega 4 since October, 1987. I also have a color monitor that has been working almost continually since 1985.

Atari's Comfort Factor

My two favorite programs are *Calamus* and *Pagestream.* These are also Atari's strongest suit, other than music. I can do what I want to, reliably and fast. The main thing for me is that it is cozy. My ST is comfortable and reliable. I sit down in front of it, and it is like an old friend that I can count on not to let me down.

Two Hearts In Tune
A User & His Atari

As a dealer I get a kick out of new users who are just beginning to get excited about software and the potential of their machine. To me there is really something special about someone just finding out what they can do with their new tool/toy. Hey, the ST is a great graphics machine, a great word processing machine, an excellent MIDI interface, and an outstanding desktop publishing machine. With *dBMAN V* and *Superbase* the ST is a very adequate data processing machine.

Music, Animation and Drafting

Drafix and *DynaCadd* are very capable drafting programs. *Phase 4* and *Cad 3D* are powerful animation tools, and as a music machine the ST is on a par with any computer made. In fact, the ST has some remarkably good programs in every area of computing, culminating in a powerful and friendly all around computing system.

Initially, More to Offer

Atari has traditionally had more to offer than its competition. Mac's have always cost more, IBM's used to cost more and had lower resolution as well as having lousy sound. Amiga's have a convoluted operating system with interlaced graphics, with good video but little else. Atari monochrome screens are still about the best around for sharpness and brightness. Also don't you find it satisfying to champion lost causes, especially when the underdog outperforms its more highly touted opponents.

The Pride Factor

Let there be no mistake about it, the ST does outperform most of its neighbors in certain areas. I love bringing up my price list on the ST when a customer wants a printout of one and just printing it in about a minute right in front of him or her. Usually they are asking about an IBM compatible of some sort and they say, "Is that *Pagemaker?*" "No," I say, "this is an Atari, probably the best desktop publishing machine available other than a Next computer." Obvious pride and enjoyment surface when I am training someone on the ST. It's such a smooth and capable transition from word processor and art program to desktop publishing to laser printer that whenever anyone comes in and wants a computer for this purpose I have no hesitation in immediately recommending Atari.

Of course, this is not the only area in which Atari shines, but it is nice to know that in this niche Atari keeps getting better and better. With color scanning and separations becoming available, as well as high resolution editing programs, Atari seems to have a good future in what is beginning to be known as the pre-press production market.

Have you ever noticed how many Atarians use modems? I've never done any research on this but it seems that Atari's files on Genie are just about as numerous as those for the Mac, while our number of computers is about a twentieth. This indicates to me that we are a lot more vocal group. I personally find that the ST is an excellent telecommunications machine. Once again, the ease of use is the real clincher. Instructions? I hate to read instructions until I get lost trying to do something. So far I haven't had to read anything, that isn't already on-line, to use my modem.

The Heroes and the Villains

Another significant motivation for using Atari computers is the relationship you build with other users and developers. I like to think that some people continue using their ST's because of the support and familiarity of my store. I am sure that people like John Russell, Dave Small, Charles Johnson, to name a few, help keep me plugging away at my Atari. Like other small organizations, Atari users get to know each other. While there are a lot of advantages to this, occasionally there are disappointments. For instance, it hurts us all when someone like Shelby Moore of Neo-Cept (*WordUp*) goes out of business. We have our heroes and we have villains, and we know each other a lot better than we would on an amorphous platform like IBM. For a diehard user like myself the other people who are involved with Atari are almost enough in themselves to make using the ST worthwhile.

A Bright Future?

So it would seem that Atari should be a very stable platform with solid growth and a bright future. Regrettably, the indications are mostly to the contrary. Why, you ask? Because the internal politics and management of Atari rejects suggestions, even products, unless they inside the organization. Regrettably, most of the villains in the Atari drama are employed by Atari in Sunnyvale. This means that while Atari has long been a better serious computer than the Amiga, easier to use than IBM clones, and faster and more fun than Macs, our sales lag behind all other computers. In fact, Atari's survival is seriously in question, and although the Tramiels are always beaming with enthusiasm, developers dealers are not. Two companies have developed high density drives for the ST. Currently the ST and TT are the only models made with double density drives. Even IBM compatible XT's can use high density disks now. The STE is also the only computer made with CGA (640x200) color graphics. At least three companies have developed higher resolution solutions for the ST, but Atari would rather boost people up to the overpriced TT which they cannot supply anyway, than adopt one of these solutions. So why Atari? Because I am familiar with it and I believe in the potential of the engineering. I like the way the machines and software operate. Yet, alas, last April when the time came to do my taxes I couldn't find a good program for the ST, so I popped Swiftax from Timeworks into an IBM compatible. I typed install at the A prompt and within a few minutes I was inside a program that could well have been on the ST. In an hour I had finished and printed my taxes out.

Desert Island Disks

Yes, the ST is a great computer, its enjoyable, competent and cozy. Mac is no longer the big competitor though, it is IBM and their windowing programs. Right now it takes a very fast IBM compatible to approach the ST's screen redraws and font handling. But they are catching up, and we are not keeping up in software development. That means while a few of us will exist in an oasis where the ST shines, the war will be won by the IBM compatibles.

Myself? Eventually, when I go to a south sea island to compute and write to my hearts content, when not swimming and sunbathing, I'll be taking a TT or the next step up from Atari. I like the way my ST works and I want a computer I can count on. Besides, I hate writing batch files and configuring obscure CMOS settings.

But that said, it would be nice if Atari would fix and release GDOS, and if they would seriously enter the computer market with equipment and *advertising!* Though this is unlikely now, Atari users, hang in there. You've got the best!

■ ■ ■ ■ ■ ■ ■

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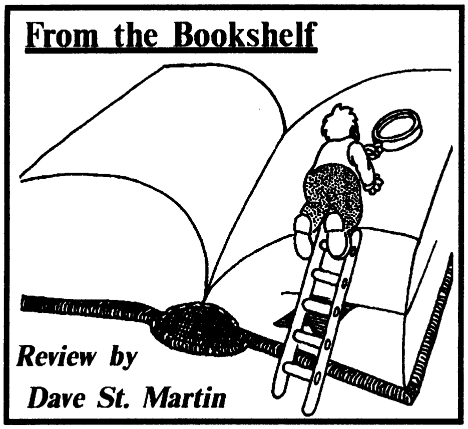

Turner's Third Book of Atari ST Topics

ISBN 0-945959-02-8, 158 pages. Softbound.

By Ralph C. Turner

Index Legalis Publishing Company, Inc., Post Office
Box 1822-3, Fairfield, IA 52556, (515) 472-2293, $16.95

About three years ago, after procrastinating for some time, I decided to purchase my first hard drive. Like so many other consumers, I did not cherish the thought of squandering my hard earned cash. I decided to consult with the local Atari hard drive gurus. Several of my acquaintances had built drive units, and they slung hard drive technospeak around with an ease that left me totally bewildered. As hard as I tried, I couldn't seem to grasp an understanding of the components necessary to throw together the winning combination. Then I stumbled upon the book *Intermediate and Advanced Atari ST Subjects* by Ralph C. Turner. The veil of ignorance lifted. Although I ultimately decided to go with a Toad-build, ICD FAST 85 meg job, I knew exactly what I was getting into, thanks to the book. So when I was asked by Mr. Turner to review the third book in his series, I readily agreed.

As in his previous books, Ralph Turner has once again drawn together an assortment of information that would normally require a trip to *your* local "guru." The diversity of information makes this book unique. The topics addressed in his latest effort include a tour of the newer Atari machines and TOS chips, MIDI, telecommunications, and a sampling of some of the better public domain programs available for the ST/TT series.

The book begins with a synopsis of the Atari TT and Mega STe machines. The condensed tour offers a discussion of the capabilities and advantages offered by the latest hardware from Atari. The author is clearly an advocate of the newer machines; however, the hype and sales pitch that normally accompanies this type of information is notably absent.

In another chapter, a short discourse on laser printers compares Atari, Hewlett-Packard, and PostScript models. Enough information is presented for the average user to decide which printer best suits his needs. The section offers many tips and hints that expedite getting up and running with a new laser printer. Laser printer troubleshooting information is also included. The author addresses the little known problem of a weak parallel port signal which causes difficulty with some laser printers. The fix using a readily available Radio Shack accessory is sure to save some user a world of grief. This level of detail can be found throughout the book.

Three chapters are dedicated to the topic of MIDI (Musical Instrument Digital Interface). Mr. Turner explains the origins and workings of MIDI, MIDI connections, and, finally, the operation of the Cosh Sequencer, a high-quality public domain program. The information is more than enough to get the average user started in the world of MIDI with minimal hassle.

Five chapters focus on telecommunications theory and application. The presentation is clear and non-technical. The author holds your hand through modem configuration and software setup with both the *Flash* and *Interlink* programs. The chapters culminate in a walk through of a bulletin board, GEnie, and CompuServe. Having delved into the mysteries of telecommunications years ago, I can only say that I wish I had this book then—it would have saved me *days* of frustration.

Throughout the book, popular public domain utilities and applications are showcased where space permits. The experience of the author clearly shows in his selection of these programs, many of which have become my personal favorites as well. There is a nice roll up of the programs in an appendix which includes several sources for each of them.

The easy conversational style with which Mr. Turner lays out each chapter is rare in computer guidebooks today. He has a unique ability to glean information from a variety of sources and present it with exceptional clarity. A question and answer format is used throughout the book and it fits well with the author's writing style. The diversity of information, coupled with the "mini-essay" approach to each topic, allows the reader to skip around within the book at will. I found myself going to the chapters that most interested me first. I believe most readers would do the same depending on what their needs where at the time of reading. It is also interesting to note that this book was written and produced using Atari hardware and *Calamus* DTP software.

Is this book for you? *Turner's Third Book of Atari ST Topics* undeniably fixes on the neophyte in each area that it addresses. The author understands his target population and has the ability to get the novice off to a running start in some of the more specialized areas of Atari computing. If you've gone beyond that stage then this book may not be for you. But if you're looking for some straight information on telecommunications, MIDI, and general Atari wisdom, this book hits the mark and is highly recommended.

[*Flash* is copyright Chiazz-Page Systems, *Interlink* copyright Intersect Software, and PostScript is a trademark of Adobe Systems, Inc.]

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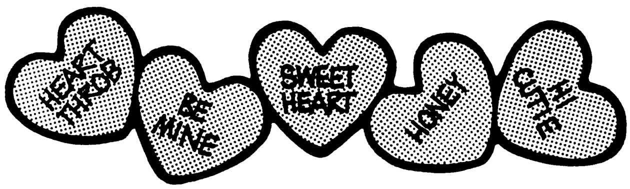

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Page 1

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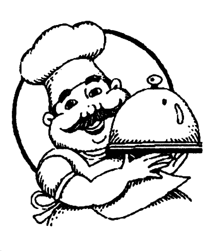


Public Domain Potpourri

by
Brian Miller

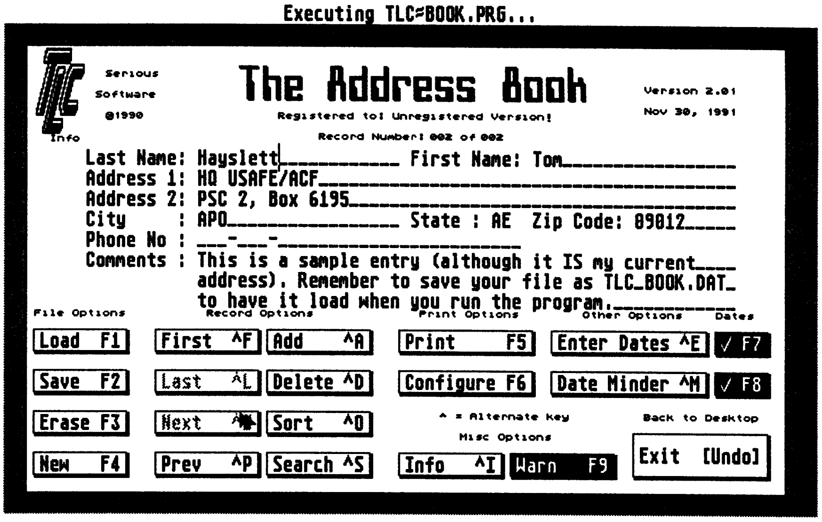
As you know, I end most of these columns with an invitation to ST users and programmers to send worthy examples of public domain or shareware software. I am very pleased to report that I have received a disk full of very nicely done programs, written by MSgt Tom Hayslett. Each of the eight programs is written under Tom's "TLC" logo. I was immediately struck by the quality of his logo which headed his letter of introduction. The effort MSgt Hayslett obviously made in designing his Logo suggested to me that his programs would certainly deserve attention in this column.

I have since had the opportunity to look at the eight programs, and I was not disappointed. I have no hesitation in forwarding MSgt Hayslett's diskette to *Current Notes* to be considered for the CN Library of software. Each of Tom's programs is marketed as shareware, and the registration fee for each is $15.00. This seems to me to be a quite reasonable fee for well written programs.

I will not write a tedious analysis of each program. Frankly, I haven't the time to do that, and Tom includes cogent and well written documentation with each of his programs, and the user should have no trouble putting them to work. Most of Tom's programs can be used with either a color or monochrome monitor. Most can also be executed as accessory programs. I will provide a very brief synopsis of each to give you some notion of the variety of needs these programs can satisfy.

TLC_BOOK

Address Book programs abound, so why another one? Tom begins his documentation with this observation. *TLC_BOOK* stands apart from other address book programs for at least two reasons. First, it is easy to use. The menu screen includes all the option buttons you will need to use the program. The screen is nicely laid out and easy to follow.



```
Executing TLC≈BOOK.PRG...

The Address Book
Registered to: Unregistered Version!
Record Number: 002 of 002
Last Name: Hayslett_________ First Name: Tom_____________
Address 1: HQ USAFE/ACF______________________________________
Address 2: PSC 2, Box 6195___________________________________
City     : APO_______________ State : AE  Zip Code: 09012____
Phone No : ___-___-____________________
Comments : This is a sample entry (although it IS my current____
           address). Remember to save your file as TLC_BOOK.DAT_
           to have it load when you run the program.__________
```

Second, the program includes a "Date Minder" section which makes the program considerably more useful than other address book programs. The Date Minder lets you mark important dates, such as birthdays and anniversaries. You can tie marked dates to existing names and addresses which you have included in the first section of the program. MSgt Hayslett states that by using the features of both sections of his program, you can greatly ease the task of mailings. For example, Tom reports that he has used his address book program to simplify the task of mailing birthday cards to nieces and nephews.

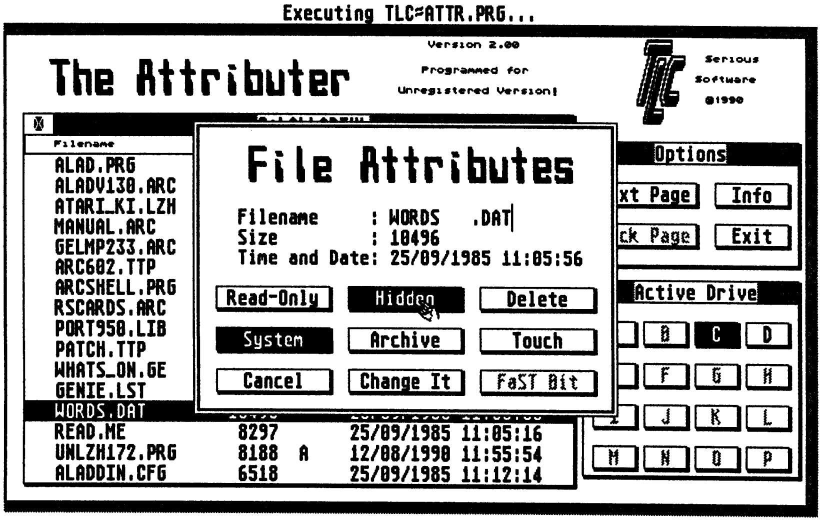
TLC_BOOK can handle up to 500 names and addresses. The program lets you fully configure your printer for flexibility in printing out names and addresses. If you have been looking for a useful address book program, *TLC_BOOK* may very well satisfy your needs.

TLC_ATTR

The *TLC Attribute* program lets you change the attributes of any file in your system. The two advantages of this program are that it gives you a convenient way to reduce desktop clutter, and a way to protect files from accidental deletion. By changing the file attribute to "System," the file disappears from the GEM desktop. You have one less file cluttering your view and you protect your system from accidental ruin by hiding vital files, for example a hard disk boot program, from unintended erasure. Hard disk owners should find this program quite valuable.

TLC_FIXR

The *File Fixer* program is a handy utility that allows you to replace one

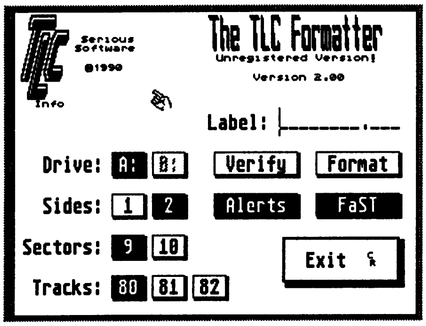


```
Executing TLC≈ATTR.PRG...

The Attributer
Version 2.00
Programmed for
Unregistered Version!

Filename
ALAD.PRG
ALADV130.ARC
ATARI_KI.LZH
MANUAL.ARC
GELMP233.ARC
ARC602.TTP
ARCSHELL.PRG
RSCARDS.ARC
PORT950.LIB
PATCH.TTP
WHATS_ON.GE
GENIE.LST
WORDS.DAT
READ.ME         8297      25/09/1985 11:05:16
UNLZH172.PRG    8188  A   12/08/1990 11:55:54
ALADDIN.CFG     6518      25/09/1985 11:12:14

File Attributes
Filename     : WORDS   .DAT
Size         : 10496
Time and Date: 25/09/1985 11:05:56
```



string of ASCII text with another within a file or series of files. The program can be run as a standard program or as an accessory. It will run in either medium or high resolution. When the program loads, you are presented with 20 empty slots. Clicking on any of the slots presents the file selector box. By clicking a file, the empty slot is replaced with the selected file.

To change the ASCII string, you must type in the string to be replaced in the first line. You must then type in the string which will replace the original in the second line. For the program to work properly both strings need to be of the same length, and the string must appear in the file selected.

TLC_FORM

TLC_FORM is a formatting program which employs a backwards formatting scheme. This enables the user to abort the formatting if desired, and the remaining information on the disk will be preserved, since the File Allocation Table (FAT) is the last section to be overwritten.

TLC_FORM also includes a "Fast" option. This will select a formatting scheme which MSgt Hayslett claims is faster than twister format or the skewed format technique used by Double Clicks formatting program. The Fast option would be particularly handy when copying large files.

TLC_NAMR

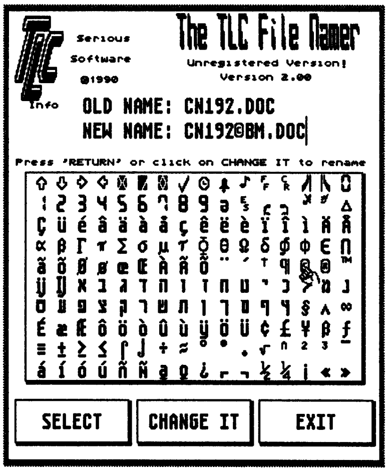
This program provides a convenient way to rename files and lets you add symbols to your file names which would not be usually accessible. I was able to rename my *Current Notes* article to include a copyright symbol in the file name itself.

TLC_PLAY

This program loads sound files from a variety of file formats. It can replay them just as is or modify the sound to create interesting results. You can increase or decrease the playback speed. You can soften, amplify and even reverse the sound.

TLC_RSRC

This handy utility lets a GFA programmer convert resource files into an ASCII file. The resulting file can be then added to the GFA program source code to be compiled with the rest of the program. Tom states that he used this program in developing his own programs. The user is saved from having to worry whether the necessary resource file exists since it is already embedded in the program itself.



OLD NAME: CN192.DOC
NEW NAME: CN192©BM.DOC

TLC_SHOW

The final utility is a *Spectrum* file viewer. Since *Spectrum* files are color paint files, the program will only work with a color monitor. When the program is executed, the file selector box is displayed. You merely load the desired *Spectrum* file to view it. Pressing another key re–displays the file selector box. At this point you can either quit the program or load another *Spectrum* file for viewing.

I am confident many ST users will find Tom's programs worth considering. Older versions of some of his programs can be found in the *Current Notes* Library already. The newest programs have incorporated as many of the suggestions Tom has received as possible. I am also sure that many ST users will be willing to pay the $15.00 registration fee MSgt Hayslett requests. You may send the fee to: Tom Hayslett, HQ USAFE/FMF, PSC 2, Box 6195 APO AE 09012. [Note: the latest TLC programs are introduced this month in CN Library disk #643D: TLC Programs.]

Sudden View

Before wrapping up for another month, I would like to encourage readers to check out CN Library disk #569D. In a future column I may be able to devote more time to Rod Coleman's text processor, *Sudden View*. I had the chance to talk to Rod and witness a demonstration of his rather amazing program at the WAACE AtariFest this past October.

Rod's program is truly unique since it employes features which you would typically expect to find in a painting program, rather than a text processor.

Sudden View lets you highlight a block of text with the mouse. You can then drag the selected text to another position on the screen and the text is automatically reformatted to that position. With this capability, you can effortlessly create a word processing document. You can "paint"your document in much the same manner as you might use a painting program to create a picture. The CN version of *Sudden View* is a beta demo version of the program. Most major features of the program are enabled. The demo version does not include some of the more advanced text editing features, and the beta version includes a "commercial" which will air after approximately 30 minutes of use to start. The commercial will replay more frequently as you begin to master the program, and you are able to initiate actions more quickly.

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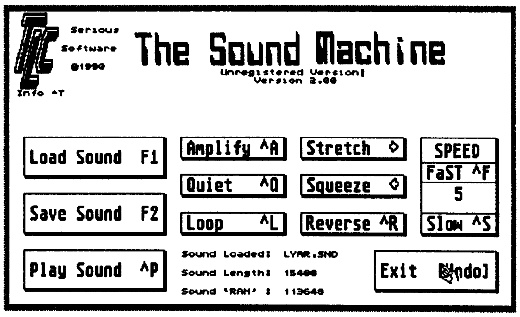

Sound Loaded: LYAR.SND
Sound Length: 15400
Sound 'RAM' : 113640

Current Notes PD/Shareware Cartridge No. 1

112 Disks: #347 - #459 (July 1989 to June 1990)

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363 Tark
364 Susan, A Lustful Game (R)
364 Love's Rapture (R)
365 Pork
365 Des Ring
366 Adv Game Toolkit
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367 Crusade
367 Elf's Adventure
367 A Fable
367 Ghost Town
367 Paranoia
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367 Squynchia Adventure
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424 Micro RTX Demo
440 Star 2000
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452 MegaBlit V2.8 (M)
452 Public Painter (M)
455 Inventory Pro, V3.0

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398 TeX: IniTeX, SliTeX
399 TeX: PicTeX, MuTeX
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442 Clip Art-People
453 Clip Art-Trans.1
454 Clip Art-Trans.2
457 Pub ST Borderpack

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407 Sheet
411 SpiritWare Conc
420 .ACCESS!
445 Body Shop
445 Geography Tutor
450 Master Tracks Jr
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388 Breach Scenarios
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419 Invaders
419 ST-Tetris
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419 Darts!
421 ST Tetris (M)
421 Dragon (M)
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426 Mean 18 Courses
428 Eco
428 Orbit
429 Alien Blockade
429 Atom Smasher
429 Gran Prix
436 Stellar Starfighter
436 Flight Levels
436 Lunacy!
438 MiniGolf (M)
438 PBM Chess(M)
438 Gilgalad Adv (M)
438 GNCIPHER (M)
446 PileUp V2.1
447 Blobbrun
447 Virtue

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368 Seq: Pitch
369 Seq: V.Johnson
371 Berthold's Pics #1
392 Spectrum #6-People
393 Spectrum #7-Space
394 Spectrum #8-Cars
408 ANI ST
409 Seq: Visitor
409 Seq: Froggie
410 Spectrum Clip Art
417 Saturn Pics
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352 Snap Shot Acc
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374 Lil Green Sel V1.4
374 Pin Head V1.4
374 DIRsleft
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375 MegaWatt Acc
375 Quick Find V1.5
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375 Quick ST V1.45
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375 Quick View V1.4
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377 Atari HD Util V3.01
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379 Pack V2
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385 DC Deskey V1.0
385 DC Stuffer V0.9
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403 Redirect
403 Pack
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406 Desk Manager V2.7
406 BooST V0.9
412 Arc-2-Lharc Switch
412 Lharc-ST V0.51B
412 ARC Shell V2.1b
412 ARCTTP
412 ARCX.TTP
412 ARC521FX.TTP
413 Check V1.1A
413 Cheetah V2.0
413 Diary Acc V1.7
413 Recover Trash V1.1
414 DC Showit V1.0
414 Lil Green Sel V1.6b
414 Super Boot V6.0
414 Quick Print V1.0
414 Star Struck V1.3
414 Switch 630
423 Picswitch V7.0
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439 UUE V3.1
441 TCOS V1.2
443 List66
443 Print HP DJ
443 Q-Text
443 ReorgHD V1.003
443 Sentry V1.01
443 Typecad Font Ed
443 DCOPY V3.4
443 DCOPY Shell V1.4
443 DC Show It V1.1
443 INF Change
443 Flexi-Fast
444 Address Label Pr V2
444 Convert to .IMG
444 GEMvelope!
444 HP Dump
444 Laserbrain fonts
444 Trim (blanks)
444 Monster V0.3
444 Pin Head V1.5
451 HP LJ Envelope Acc
451 HP Laserjet Cont
451 HP Jet Label V1.1
451 LaserJet V1 +5fonts
451 Pretty Print V1.0
458 Sticker Pictures

Word Processing
372 MagniWriter
401 ST Writer V3.4
415 Hardware Mods No. 1
425 DMC Laserbrain
427 Hardware Mods No.2
430 ST Writer Elite V3.8
448 Kepco Edit
448 Stevie V3.95

The programs listed above are available on CN cartridge #1. Programs are listed by category. Within category, programs are listed by CN disk numbers. The three-digit number indicates the CN library disk on which the program can be found. Note: an (M) indicates monochrome only.

CN cartrdges are $119.95 plus $4 shipping and handling. Individual disks are available for $4 each (10 for $35) plus $1 S&H for every 6 disks.

Order disks from
CN Library
122 N. Johnson Rd
Sterling, VA 22170
(703) 450-4761.
VISA and MC orders accepted.

Current Notes PD/Shareware Cartridge No. 3

95 Disks: #460 - #554 (July 1990 to April 1991)

(c) 1991, Current Notes, Inc.

Adventure Games
494 Taipan II (C)
507 Text Adv Dev Sys
507 Ditch Day Drifter
508 Deep Space Drifter
513 Disenchanted

Desktop Publishing
461 Calamus Outline Art Demo
469 PageStream Font Editor
470 Clip Art #14-People
471 Clip Art #15-People
521 Clip Art #16-Old Cars
522 Clip Art #17-Cartoons
523 Clip Art #18-Misc Themes
524 Clip Art #19-High Res Pictures
538 Calamus Fonts (Advertise, Architect, Barnum, Broadway Engraved, Causal Loose, Celtic Roman, Flash Book, Fancy Chancery, Harloe, Kleranden Heavy, Mouse, SchoolBook, St. Francis, Suizo, Tiphany, Univ Bold, Univ Roman, Wild West, Windzor.)
552 Calamus Fonts (Lucifer, Tiempo, HORSE CAPS, LEE CAPS, MEDICI, ZALESKI CAPS) plus GEnie messages.

Database
545 Cardfile D.V1.43
545 Notes V0.9
548 First Base V2.0
554 Informer II D.
554 R–Base D.
554 TLC Address Book

Demos
460 DynaCadd D.
464 Personal Finance Manager Demo
465 Mail Pro Demo
526 eSTeem PILOT D.
541 God's Word^2 D.

Education
477 Class V2.05
477 EZ-Grade D.
485 Algebra 1: Linear Equations
486 Algebra 1: Verbal Problems
487 Basic Math Skills: Operations
488 Grades, Interims, Student Teams
495 TestMaster V2.01
516 Stargate V3.0 (M)
530 Cinema
530 Flash Card

Games
462 Bloodwych D.(C)
463 Blood Money Demo
463 Wipeout D.
465 Stocks and Bonds (M)
478 SpaceWars V1.0
479 Hero IID D.
479 Swiftar D.(C)
499 Starblade D.(C)
500 Yolanda D.(C)
500 Rick Dangerous D.(C)
501 Photon Storm D.(C)
501 Aquanaut D.(C)
502 Kid Gloves D.(C)
502 Back to the Future Demo (C)
512 Sorry (C)
512 ST Square (C)
514 Pileup V3.0 (C)
525 Gran Prix (C)
532 Maniac Miner (C)
532 Valgus
533 Collapse V1.1 (C)
533 Jeopardy (C)
533 Valgus^2 (C)
533 Triple Yahtzee (C)
534 HacMan II (C)
539 Toyota Rally D.(C)
539 Flimbo's Quest D.(C)
539 Defender II D.(C)
540 Simulcra D.(C)
540 Spellbound D.(C)
540 9 Lives D.(C)
543 Midi Maze II
550 STrabble
550 Nova

Graphics
482 Wallace #1 (C)
483 Wallace #2 (C)
484 Wallace #3 (C)
491 Wild Flowers (C)
497 Public Painter V0.1 (M)

Kid Games
476 KV-Me First! V2.0 (C)
504 KV-Match (C)
504 Letter Hunt (C)
504 Ench. Forest (C)
504 KV-Geog-1 (C)
505 SDI Adventure (C)
505 Mansion Adventure (C)
505 Mountain Adventure (C)
535 KidMixup Plus (C)
536 Rabbit (C)
536 Santa Clause (C)
536 Burger (C)
536 Circus (C)
536 Robin (C)
537 Perfect Match (C)
537 Makin' Aiken (C)
537 KV-Fonic (C)
542 Kid Story (C)
542 Wuzzlers (C)
542 Rebus Writer
543 Dreissig (M)
543 AKS (M)
547 Barnimals (C)
547 The Wolf and Seven Kids (C)

Music/MIDI
466 16-Voice Sequencer
467 MIDI Music Maker
496 Guitarist D.
498 Equinox Sound-Tracker V2.5
511 MIDI Mike V1.0
511 Music Studio Song Player V1.2
511 MS Player
527 Alchimie Jr. Music Sequencer
527 Name That Tune
528 Name That Tune Misc Songs
529 Name That Tune TV Songs
544 Pers Music Lib
545 Musicalc V2.02
546 TCB Tracker demo

Office
464 Payroll V3.0 Demo
464 Cost of Living Adjuster
464 Checkbook V1.14
493 B/STAT Ver. 2.36

Reference
480 Current Notes Catalog
481 CN Macintosh Collection
489 Area Code Locator
489 Postal
509 GEnie Files 9/90
515 Starting Block Columns

Telecommunications
472 Instant Graphics! V2.14
473 Instant Graphics! Utilities
474 MiniTerm Desk Accessory
474 MiniBBS Bulletin Board System
510 Nite Lite BBS
510 Vulcan Embassy BBS
517 Aladdin Program
520 Air Warrior, V2.0B
553 Aladdin's Magic Browser V1.1
553 GE files in Aladdin format

Utilities
475 HyperScreen
475 STDCAT V4.3
489 Shreader V1.1
489 Hot!Stat V1.1
490 Virus Killer V3.11
490 Hospital
490 Super Virus Killer
490 Flu
492 FastCopy III
492 HyperFormat
492 ARC Version 6.02
494 GFA Shell Plus
503 NeoDesk 3 D.
503 NeoDesk CLI D.
506 TLC-Play
506 TLC-Namr
506 TLC-Form
506 TLC-Attr
506 Mouse–db V3.0
506 Spirit Editor
506 A1-Time
506 Clock-5
506 Mouse Accel. V3
506 Ocultarx
506 Idle-22
506 UnLZH V1.72
506 Volume
506 ST Sentry V5.1
519 Printer Utilities
531 Quick ST 2.2 D.
531 Little Green Selector V1.88
531 Gram Slam Grammar Checker D.
548 Backup ST
548 K-Text V1.33
548 SText V1.1
548 PFXPAK
548 Library Master
548 TX2-View V1.35 D.
548 Pinhead V1.8
548 Bigcolor V1.05
548 SANDP V2.1
549 Arc to LHARC Switcher
549 Arc Shell V2.3
549 UNLZH V1.61
549 ARC V6.02
549 LHA V1.21
549 Arcgsh V3.5
549 Unerase
551 SuperBoot V7.0
551 Autosort
551 Digiedit
551 Picswitch
551 SnapIt
551 MassKill
551 FormDoIt

Note: A (C) indicates color monitor, (M) monochrome monitor, and "D." a demonstration version. These disks are all available on a single 44 megabyte Syquest removable cartridge ($119.95 plus $4 S&H). Disks can also be ordered individually for $4.00 each (10 for $35) plus $1 S&H for every 6 disks. Order from Current Notes Library, 122 N. Johnson Rd, Sterling, VA 22170. (703) 450-4761. VISA and MC orders accepted.

Current Notes PD/Shareware Cartridge No. 4
85 Disks: #555 - #639 (May 1991 to December 1991)

(c) 1992, Current Notes, Inc.

$119.95

Graphics Demos
572. Boing STe/Space Hp
573. Cool STe/Mega STe
572. Mymono
580. Pizzmini

MIDI Programs
635. Backtrack/EZ-Score+
635. JukeBox/Patterner
594. DigiPlay+/Esion
594. MIDI Music Maker
594. Noise Tr/Robo-Bop

Utilities
639. 2Column
555. ABFormat
639. AFX-12E
559. AProCalc
634. ASCII
567. Acc13
629. Accent
589. AddrssMe
595. ArcShell V2.6
629. Argus
567. AutoArc
577. Bench2
559. BigBux13
634. Boot-CPX
565. BootMaster
629. BootPlus
629. C&P150
634. CPX-Mdls
634. Calendar
639. ChangeHZ
559. Check-Bk
559. Chekbook V1.19
629. ChkHD81
629. Clock17e
589. ClockSetter V1.3
634. Color (CPX)
589. Compare1
634. Config (CPX)
588. DC Disk Stat
629. DC Light Off
629. DC Mouse Saver
629. DC Mouse-ometer
629. DC Mouser/No Alert
629. DC PopBar V2/
Run Rez
567. DC BootIt
567. DC Lefty/PopBar
589. DC Salvag/Homey
567. DC Topper
577. DC–MWrap
567. DC–RT–DC
579. DMJ–GIF
629. DOSTester
578. DTerm1K
577. D–Viewer/DbleFeat
577. DefSel/DirPrint
634. Double (CPX)
595. EdmShell
588. ElfBoot2
595. Extract'r
559. FCalc25
559. FGraph
577. FPrnt
629. FSelect
589. FileSorter
567. Flrmt3–5
629. FndMac
629. FormDoIt
634. Format (CPX)
567. FunkAlert
578. GEMxyz
579. GView105
579. Gallery
634. General (CPX)
565. GOGO ST
555. HotSaver
579. I-Floyd
555. IMG2ICN
555. IMGViewR
639. JamPack4
634. LaserCPX
578. Lha130
567. LHARC V1.1318
577. LiteMail
639. Low-Rez
629. LowSwitch
595. Lzh201de
634. MAccel (CPX)
555. MCF
629. MClock
629. MDFormat
639. MDisk60
634. MS-Cache (CPX)
579. Mac2IMG
589. Make*A*Date
565. MaxiFile 3
565. MenuPlus
567. MkRmDir
634. Modem (CPX)
629. MonMagic
577. Mse-Trix
567. Multi135
629. N-Format
589. N–Capslk
629. N–MenTim
634. NvdiConf (CPX)
639. PFX V1.7e
578. PSFontVw
634. Printer (CPX)
578. QTTP
577. RFTDCA
577. RT–Move2
577. Reorg
634. Reversi (CPX)
555. ST–Tools
639. Sentry
578. Sortie
634. Sound (CPX)
629. SpeedMet
567. SqueesIM
629. Stint3-1
578. Streel04
555. TLC–Utilities
555. TN–PCalc
567. Ultra
639. Uncle3-7
588. Uncle35c
639. UncleVol
634. Vanity (CPX)
578. Verify
589. Video
579. View
634. Wcolors (CPX)
639. WhatIs51
629. Winxv13
555. X-Mon
595. XShell
634. Xcontrol
565. Zest
595. Zoo21
595. ZooShl06
629. Zoom

Games
622. Amaze
558. Amaze
622. Astro Tunnel
575. BJP3
620. Beyond
593. Bloecke
592. Bloecke
593. Boing
624. Boston Bomb Club
563. Bug Bash
563. Captive
623. Catchme
574. Cola Wars
592. Dame
582. Damocles
558. Daniel's Dungeon
558. Dark Castle
575. Debut Demo
593. Demolition Man v1.3
574. Drachen V2
622. Dromepre
624. Eliemouse CB
593. Football
623. Frustration
592. GoBang
557. Hero! Demo
563. James Pond Demo
620. Jeopardy V3
582. Llamatron, 1Mb
575. MahJong
622. Mahjongg
623. Manipulr
563. MasterDrive
620. Milbourne
622. Noids
621. Offender
628. Omega
592. Online Bakgammon
623. Paigow
575. Pipe Mania
592. Poker Squares
592. Pong
558. Reaction
624. Repeat
623. Schiebst
574. Seaside
593. Snowball Fight
574. Space Jet
574. Splatter
592. Super Breakout
558. Super Mastermind
575. Valgus^2
622. WarZone
620. Warships
575. WordBid
623. Wunder
560. Wuzzlers II
592. ZestPoker

Applications
564. 2bsfkeys
569. Air Warrior V2.0e
638. Area Code Locator
599. B/STAT V2.41d
561. Bible Series NT
562. Bible Series NT
633. Calculators
638. Calendar Desk Acc
576. Deluxe Paint Demo
638. Edwin text editor
564. Elvised
638. First Base DB V1.8
564. Gnome
638. InfoDisk
564. MgEmacs
564. Minitx22
576. Neochrome V0.5
638. Office Football Pool
625. ST Writer V4.4
632. Star 2000
564. Stext14F
632. SubCal V2
564. Talker
564. Tx2cnvt4
638. UnitsAcc
590. VDOS Proque V3
576. XS FX/D'Artiste

Commercial Demos
598. Arabesque Prof
568. DynaCADD Demo
627. GP–Edit Library
585. HyperLink
596. Sudden View
587. Wordflair

Educational
637. AddUp
566. Capital Fun
637. Class
637. Master-Quiz
637. Math-Quiz
637. ST Spell
637. Teach ABC

Languages
583. BC-Fortran77
630. Prolog

Clip Art
605. Bikes
602. Birds
608. Boats No.1
609. Boats No.2
604. Cars
618. Cars/Buses
600. Xmas 1
601. Xmas 2
610. Comp. 1
611. Comp. 2
603. Dinasours
617. Frames
612. Houses
606. Planes
613. Pr Orn 1
614. Pr Orn 2
615. Pr Orn 3
616. Pr Orn 4
619. Signs
607. Trains

DTP
556. Acuransx
591. Calamus SL Demo
581. Calamus14
631. Calendar/Ext-Char
631. F-Scale
586. Font Designer V2.0
631. F: 3 Hebrew fonts
631. F: A-Logo/Diane/
Krazy
581. F: Absolute/Bernard
556. F: Book/Marcella
581. F: Chilpepr/Diego/
Hotshot
581. F: Fundrunk/Galleria
631. F: Moscow Reg/
Premier Lt
581. F: Recycle/Roosthvy
556. F: Rockside/Roman
631. F: Showboat/Tienpo
581. F: Talansty/Unicalds
631. F: Tiempo Light
581. F: Upperwes/Windsor
581. FontView/Mini6
631. Forms Set
556. Gillieps
631. Manuala/TxtRuler
556. Mycalndr/TheGunth

Telecommunications
626. Atari BBS list
636. BBS Express demo
636. COWS-87S
626. FZDS Term demo
597. G.I.M.E.
626. Inst Graphics
626. Kermit
636. OBBSV216
584. Omni V101
636. ST-KEEP
597. ST–TERM

New Disks for January/February

640: System Disk 1

For 520ST owners, everything you need to ARC and unARC files. Includes ARCSHELL, ARC.TTP, and LHARC. Also includes 4 acc (CALC, CALEND, CLOCKA, RAMBABY), plus a virus killer prg.

641D: System Disk 2

For 1040ST/Mega owners, everything you need to ARC and unARC files + SuperBoot. Disk #640 + Super Boot, a disk formatter and a disk utility program.

642D: System Disk Archive Files

Complete archives, including docs, of files on 640 and 641D: ARC602.ARC, ARCS31.ARC, CALC.LZH, CALEND.LZH, CLOCKA.LZH, DCFORMAT.LZH, DCOPY36.ARC, LH201H.LZH, RAMBABY.ARC, SBOTHR.LZH, SBSNDS. LZH, SPBT70.LZH, VKILL381.LZH.

643D: Utilities

CartHold. Here is the simple method to hold cartridges snugly in the cartridge port. Its cheap and it works very well.

Cookies. Replace your arrow mouse pointer with a chocolate chip cookie!

DB_Eyes. Auto-folder program that places a pair of vigilant mouse-watching eyes on the screen.

EDDA. Shareware .ACC text editor has cut & paste features and allows extended characters.

EDM Shell 2.20. Easy-to-use shell for handling ARC, LZH, ZIP, and ZOO functions.

PATHMAP 1.0. A tool for installing applications on the GEM Desktop.

N_DESKTP.ACC. Changes the background pattern of the desktop.

NOSEY. Search (up to 10) files for string within a file, with or without case sensitivity.

STDCAT50. ST Disk Cataloger V5.0.

TLC Programs (All are SHAREWARE)

TLC_ATR2. Allows changing file's attributes (hidden, read-only, system, archive) as well as updating the date'time stamp and setting the fastload bit for TOS 1.4.

TLC_BOOK2. The TLC Address Book Ver 2.01.

TLC_FORM2. Versatile disk formatting program.

TLC_FXR2. Allows easy searching and replacing of ASCII text strings within programs.

TLC_NAMR2. Use ANY of the STs extended character set in your filenames.

TLC_PLAY2. Load and play digitized sound files from Soundoff!, ST Replay, MasterSound, DigiSound, and more.

TLC_Show2. A simple viewer for compressed or uncompressed Spectrum pictures.

644D: Write-On Demo

PD demo of the Write On! Word Processor from Compo Software is of the scrolling demo type, rather than the save-disabled, but you can easily see the features of the program from watching the demo. Req 1 MB and monochrome monitor.

645D: CoPilot

COPILOT is a runtime version of eSTeem PILOT, an authoring language for creating tutorials, drills, tests, interactive dialog, games, simulations device control programs, and interactive laser videodisc multimedia. COPILOT will run any PILOT module. Disk includes a number of PILOT modules which demonstrate the features of the eSTeem PILOT language and aid new PILOT authors in creating their own PILOT modules.

646D: Arcade Games

Noids V100. Like Breakout, includes MkNoids, the game creator.

Demolition Man 2.0. Puzzle game features three levels of difficulty, as well as an x-ray button that gives you a quick look at everything on the board.

3_Shoots. (C) 3 joystick-controlled games include a spaceship battle, a rescue mission with a military theme, and a Duck Hunt clone. Great for kids.

647D: GP EditT Demo Games

Several color arcade games construction using GFA Basic and GP-EDIT. The games are fully playable and illustrate the power inherent in the GP-EDIT package. **Bobble** (similar to COLLAPSE, falling blocks, but not at such a frantic pace.) **MS.Pac** (the familiar Ms. Pac-Man game.) **MultiGame** (This is actually five games in one, all are great fun: WORM, FIRECOP, MEGAPEDE, BREAKOUT, and SETRYS.)

648D: Commercial Demos

Data Diet Demo. DC Data Diet saves megabytes of disk space efficiently and silently and provides excellent compression at an astounding speed.

EdHak Ver 2.2 Demo. Fully functional accessory editor except that it will not let you save anything from the edit buffer to a file or to disk sectors, but can be used for viewing any kind of files (even larger than your RAM), viewing any area of RAM, and viewing disk sectors.

MultiDesk Deluxe. Desk accessory loader/unloader. The demo has a time limit of ten minutes. MultiDesk Deluxe gives you access to more DAs, while using less memory and booting up faster!

Word Search Creator. A fully functional demo version of the new premier word search puzzle creation utility for all Atari ST/TT computers. (Limited to a maximum of five words.)

Crossword Creator II. A fully functional demo version of the fastest, easiest-to-use and most complete crossword puzzle utility ever developed for Atari computers. (Limited to a maximum of five words.)

MIDI Spy. Demo version of CodeHead's MIDI Spy recorder, a unique MIDI sequencer that records and plays in the background.

649D: Financial Programs

Checkbook. Checkbook balancing program automatically sorts all ofyour transactions by date and lets you go back and change information you entered a any time.

Stock->Smart, V2.1, a stock charting program. Up to 4 charts may be displayed at any time. A terminal program and daily to historic quote converter program are part of STock->Smart. Updating your favorite stock charts is FREE with Genie's daily stock quotes. Chart high/low/close, closing, volume, weekly/daily, moving averages, etc. All daily quotes are converted to historic format and appended to previous records for each stock you choose to track. Use the line drawing feature to highlight trends and help make forcasts.

MEGA-Check. Complete and full-featured personal finance manager boasts over 100 functions and uses its 190+ commands and functions like the hierarchical "account structure," high-speed menus and dialogs, report generator, and alarm system to help you track your money outlets.

[Order disks from Current Notes Library, 122 N. Johnson Rd., Sterling, VA 22170. VISA and MC accepted (Call (703) 450-4761 to place your orders.) Disks are $4.00 each (10 for $35) plus $1 for every 6 disks for shipping and handling.]

Current Notes Contents
Volume 11
1991

Listed below are all the major articles printed in Current Notes during 1991. We have tried to list not only article titles, but also very short summaries of the article or review. Listed first are the CN columnists; their articles are listed by month. We then present an alphabetical listings of articles, news stories, and product reviews. Each listing includes the author's name, the month the article was published, and the page number.

CN Columnists

Editorials, ***by Joe Waters***

The publisher of *Current Notes* usually limits his input to a short, one page editorial each month. Here are the topics this past year.

Feb A Look Back at *Current Notes* in 1990. p.4
Mar DTP Aids: A Waxer and the Franklin Language Master Dictionary and Thesaurus. p.4
Apr Switching to *Calamus* for *Current Notes*. p.4
May Learning by Doing and Buying an IBM PS/2 Model 50! p.4
Jun What You Have May Be Good Enough. p.4
Jul A Little Atari and *Current Notes* History. p.4
Sep System Error ... Reboot: Working with an Apple Mac is not always as wonderful as some say. p.4
Oct What's in This Month's Issue. p.4
Nov CN Author of the Year Award: Dave Troy wins 5th annual award. p.4
Dec Where to in '92? p.4

ST Update, ***by Frank Sommers***

Atari owners are always anxious to learn about the latest developments in the World of Atari. Frank, when not peforming his duties as ST editor, regularly surveys the country and provides us with the latest news about Atari Corp. in general and ST, Mega, and TT happenings in particular.

Feb Atari Restructures, Price Reductions for STe's & Lynx, Mega STe Appears, Stiff Competition Ahead for TTs. p.10
Mar ST Bests IBM PC, Gregg Pratt Makes Right Noises, Items for the Future, Atari Attempts Plastic Surgery. p.9
Apr STe Hot Seller, MegaSTe Is Here, Lynx On TV, Sam Tramiel Meets the Press, Atari Vows Mass Distribution, Strategic Partnership with Dealers. p.8
May Atari's New Niche–CEPS, Atari in the Future, a Dealer's Inside View. p.9
Jun Atari's New Dealers' Delight, Atari Rent–a–Factory, and Atari in Former East Germany. p.10
Jul Dealers' Meeting Postponed, IBM & Apple Cozy Up. p.9
Sep Two Day Meeting of Aegis Dealers, Business War Ends, Quo Vadis TTs? FMS GDOS Now Shipping. p.8
Oct New Financial Horizons, New TT, Strumph Stays Home, More Power '92. p.18
Nov Users Romance at WAACE, New Newsletter, New "Cover Boys," and New Factory? p.10
Dec Hands on in Chicago, Lynx a Lot, MMU's and GLU's. p.8

The 8–Bit Alchemist, ***by Ben Poehland***

Devoted to the 8–bit Atari owner, the 8–Bit Alchemist provides the latest news in the Atari 8–bit market. Ben's speciality is hardware modifications and he has provided, this past year, a number of in–depth tutorials for the 8–bit owner who wants to improve his system.

Feb ***Secrets of the 1027 Printer***: How to keep your printer up and running. p.14
Mar Haberdashery, a few good reviewers, twilight sources. p.12
Apr ***80–Column Switcher for the XEP–80***: How to build a box to switch between 40/80 columns on your monitor. p.12
May ***Audio Potpourri***: Gumby, a stereo sound upgrade for your 8–bit computer. p.14
Jun ***MacInker***: Some hints on reinking those ribbons on your dot matrix printer plus Mail, Newsbytes, and Twilight Sources. p.14
Jul ***Fragged in the Twilight***: A Catalog of Pirated Software. p.12
Sep ***Newsbytes*** and Twilight Sources. p.12
Oct ***Non–Xanadu Mortgages***, Fests, Brodie Silence, Pirates, ChromaCAD. p.14
Nov ***Mail Backup***, New 8–Bit Games, Spare Parts. p.58

Junkyard Pussycat, ***by John Barnes***

One of the leaders behind the WAACE organization, John Barnes offers a variety of interesting and thought–provoking columns each year, generally focusing on one aspect or another of the Atari scene around the country. John won the CN Author of the Year Award in 1990.

Feb ***Online in Offbeat Places***: a look at Delphi, Fido Net, and FanTek BBS. p.26
Mar ***Online on CompuServe***: a look at what CompuServe offers the Atari enthusiasts. p.26
Apr ***Catching Up on Odds and Ends***: electronic postman, the importance of standards, the new generation. p.26
May ***Was Gibt in Deutschland***: Atari PD Journal provides a glimpse of Atari computing in Germany. p.24
Jun ***An Atari in the Service Bay***: ALLDATA uses Atari and CD–ROM to bring information to automobile service bays. p.19
Jul ***Education and Computers***: if there are so many computers in the classroom, how come our kids are not learning more? p.16
Sep ***Seeing Is Believing***: a look at visualization and a computer's ability to simplify data. p.14
Oct ***Scientists as Entrepreneurs***: scientific programming has become a cottage industry. p.22

Nov *The Ghost of Christmas Coming*: some Christmas gift suggestions for Atari owners. p.26

Dec *The Fourth Criterion*: when the 'fest is all over, are the organizers ready to do it again? p.18

Myths & Mysteries, *by Dave Troy*

One of the guiding lights behind TOAD Computers, Dave Troy, who won the 1991 CN Author of the Year Award, is our answer man. Each month, Dave provides readers with interesting and in-depth explanations on a variety of Atari-related topics.

Feb *Quick Look at Slicctop*, Atari SC1435 Monitor, Deskjet Blue Skies. p.30

Mar *Did You See Those Fonts?* Using Fontverter and Font Designer Plus to convert fonts from PageStream to Calamus to PostScript. p.30

Apr *Atari's SLM804 and SLM605 Printers*: the not-so-dumb way to do laser printing. p.30

May *The Non-Conforming Mega STe*: size makes shopping for computer desk difficult, plus some observations on the new MegaSTe. p.26

Jun *Hey-Like, Db, Man!* Using a database program and mailing list to increase your sales. p.24

Jul *Fun with Stereo Sound on the TT030 and STe*: a hands-on look at the new TT plus how to produce stereo sounds on the TT and STe. p.22

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Oct *Europe and Dusseldorf*: What's New. Impressions of Atari in Europe and a first look at Atari's new ST Notebook and STylus. p.32

Nov *The Universe Is Shrinking as It Cools*. What can dealers and users do to increase or maintain the size of the Atari market. p.16

Dec *The ST Does Networking*. The TTM194 monitor, TOS 2.05 on the STe, and ST Networking. p.34

ST Toolbox, *by Andrzej Wrotniak*

Author of *Star Base* and *SubCal*, Andrzej Wrotniak gears his columns to the programmers in the audience. Reviews focus on languages and utilities. This year Andrzej started a series of articles on programming that teach the basics without relying on one specific language. Andrzej won the CN Author of the Year Award in 1989.

Feb *GNU C++ for the ST*; Prospero Scaling Down U.S. Operations. p.28

Feb *The Sad, Sad World of PC Clones*: buying your ST was the best thing you've ever done! p.42

Mar *Cal 4.3, Stalker/Steno, and Supremacy*: a calendar, a notepad, and how to shoot the brains out of an alien. p.15

Apr *Programming as a State of Mind, 1*: The first in a series of articles on computer programming. p.57

May *Programming as a State of Mind, 2*: What does not make a programming language. p.46

Jun *Desktop Calculators*: A survey of ST calculators: the good, the bad, and the ugly. p.42

Jul *Programming as a State of Mind, 3*: Data Typing 101! Plus HighSpeed Pascal, Turbo Pascal 6.0, & Astronomy on the PC. p.32

Sep *Standardize Your Keyboard Commands*: New DC DesKey makes the job easy. p.26

Oct *HighSpeed Pascal, HiSoft C, EdScheme*: A first look at three new language packages. p.54

Nov *Image Cat, Universal 3.3, Neodesk 3.02, Quick ST 3.0*: New versions of some old-time favorites. p.20

Dec *Programming as a State of Mind, 4*: Procedures, Functions, and Subprograms. p.30

Small World, *by Dave Small*

Well known for his creation of a Macintosh emulator for the Atari, Dave Small, a closet writer if ever there was one, entertains us regularly with fascinating articles and computer-related stories. A perennial favorite of CN readers, Dave won the 1988 CN Author of the Year Award.

Feb *68030 SST Accelerator and Lots About the ST, 1*: The secrets of video scanning. p.18

Mar *68030 SST Accelerator and Lots About the ST, 2*: The Role of Video Memory. p.18

Apr *68030 SST Accelerator and Lots About the ST, 3:* SST philosophy and design. p.18

May *I Remember....* A tribute to the many programmers who have been struck by AIDS. p.52

Jun *MMU and Magic, Inc.* How the ST Memory Management Unit allows some real computer magic. p.30

Sep *Pass It Forward.* I've heard "Pass it forward" so many times that I believe in it. p.34

Oct *A Look Inside the U.S.S.R.* Dave interviews a friend upon her return from a visit to the USSR. p.26

Nov *WAACE Show 1991.* With his view from across the table, Dave gives his impressions of the WAACE 'fest. p.28

Starting Block, *by Richard Gunter*

Many CN readers are just beginning to understand some of the wonders that their Ataris can provide. This column is devoted to those beginners in the audience and tries to provide some of the basic fundamentals new users need to get started.

Feb *Hotwiring Your ST,* 1: A tutorial on using CodeHead's HotWire. p.22

Mar *Hotwiring Your ST, 2*: More on working with CodeHead's HotWire. p.24

Apr *Digital Potpourri*: Update creep, memory and TOS 1.4, Loom, mail order integrity. p.24

May *Field Stripping a System*. Something not working? Drop down to basics to find the cause. p.22

Jun *Loom and Hero's Quest*. These games provide a relatively easy change of pace, for novices. p.22

Jul *Informer II*: Pics and Data. A review of how Informer II handles pictures as data base elements. p.20

Sep *More on Informer II*. How to use Informer II to set up a simple database. p.22

Oct *The Essential RAM Disk*. What a RAM disk is, why you should have one, and how to use it. p.20

Nov *For a Few Dollars More...* Advice on expanding your Atari hardware system. p.24

Dec *Text and Words, Oh My!* A look at the differences between text editors, word processors, and desktop publishers. p.22

Stuck in a Rut, *by Sam Wright*

Everyone enjoys a good adventure, but solving these games can sometimes be pretty challenging. This column, devoted to adventurers and RPG fans, generally provides not only a brief review of the game, but also a series of hints to help you along your way to the solution.

Feb ***The Fool's Errand***, solving puzzles (magic squares, jigsaws, etc) is key here. p.68
May ***Loom***, a linear animated adventure, with most solutions just a room away. p.56
Jul ***Quest for Glory I***: So You Want to Be a Hero, an animated adventure with role–playing elements thrown in. p.62
Oct ***Leisure Suit Larry 3***: Passionate Patti in Pursuit of the Pulsating Pectorals! An R rating for sex, not violence. p.66
Dec ***Devon Aire in the Hidden Diamond Caper***, resembles more an adventure than an arcade/action game. p.60

Public Domain Potpourri, *by Brian Miller*

The world of public domain and shareware software offers the Atari owner a treasure chest of useful and interesting software for relatively modest prices. Brian concentrates his reviews on the PD world.

Feb ***Pileup, ST Tetris, Stargame, Damanoid Budgie***: fine arcade action available in the PD world. p.64
Apr ***The Nature of Shareware and PD Software***. p.70
May ***WordWriter to RFT and DCA to WordWriter***: moving documents from an IBM to an ST and back plus SuperBoot Revisited. p.70
Jul ***GramSlam vs RightWriter***: a comparison of grammar checkers. p.52
Oct ***ST to PC to MAC***: How to move data from one computer system to another. p.70
Nov ***Harvey Utilities***: A package of utility programs of interest to GFA Basic programmers. p.58
Dec ***The ST Is a Great Music Machine!*** A brief survey of some PD MIDI gems: Accompanist, Alchimie, Jr, and Name That Tune. p.68

Pilot, *by Milt Laughland*

A lot of Atari owners enjoy the thrill of flying using their home computers. This short series provided readers with detailed instructions on how they could improve their piloting performance in Falcon.

Jun ***Lesson 1: The Ins and Outs of Keyboard Flying***: Basic flight procedures, diving and low level ground attacks. p.36
Jul ***Lesson 2: Ins and Outs of Combat Fighting***: Mastering air–to–air and some air–to–ground combat techniques. p.28
Oct ***Lesson 3: Missions, Combat, and Landings***: Some advice on mission strategy in conquering Falcon. p.36

Small Miracles, *by Frank Kweder*

One of the joys of the Atari 8–bit is the "small miracles" that one can bring about with just a few lines of Basic code. These short program segments are designed to show off what your computer can do.

Feb Sinewave, Mcarpet, Joytest. p.66
Apr Truchet2, Ancient, Eyechart, Robojazz, Cnyoyo, Mweave. p.60

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A History of the Atari ST, 2: 1988 to 1991. A dealer provides his perspective on recent Atari history. Bill Yerger. Sep p.66

Air Warrior Rally: Fly Slow, Die Fast. CN reporter attends Air Warrior conference in Springfield, Ohio. Mike Heininger. Oct p.42

Atari in London: Spring 1991 Update. The hardware market in the UK is flat and the trend is continuing. Milt Creighton. Sep p.20

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ZNET Newswire: 1.44MB floppy, New Stereo Replay, TOS 2 Upgrade, VGA on ST, TT to VGA monitor, TW Publisher 2, Prospero Fortran for TT. Z-Net, Oct p.12

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Two special people deserve recognition. The first is my sister, **Sherry**. She has done all the shipping, every night for the last year, despite having a full time job during the day. The second, my friend **Ginger**. She's makes Rising Star shine, she takes most of the orders and keeps it running smoothly. Neither Sherry or Ginger know about their sudden fame, until this ad appears. It's my way of saying thanks and welcome back Ginger.

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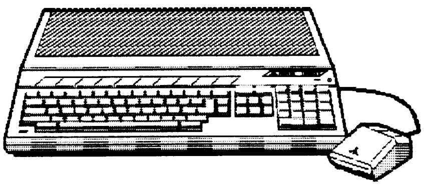

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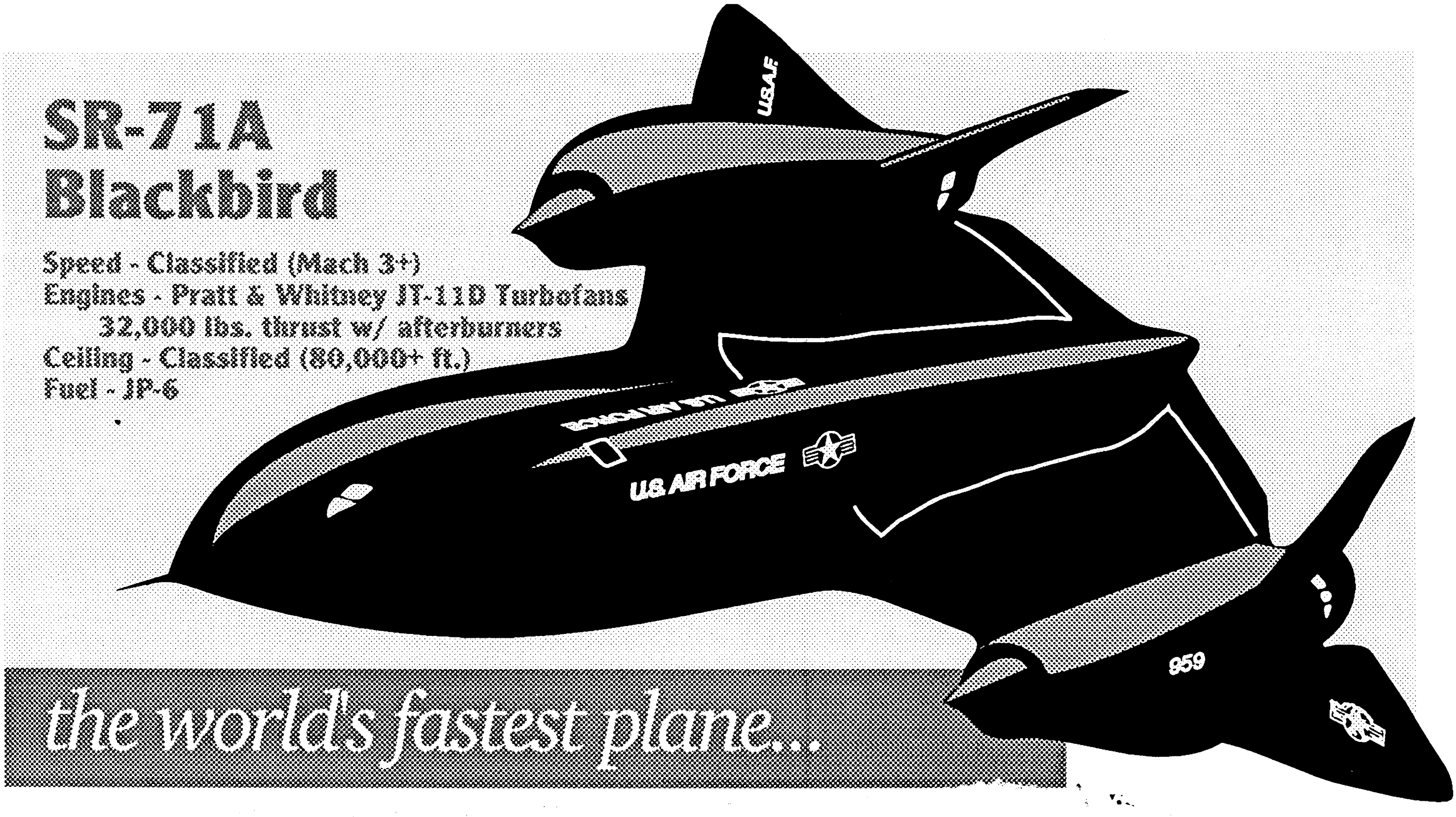

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